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SERVICE, INVENTORY AND MAINTENANCE SYSTEM  
COMPUTER SYSTEM DESCRIPTION  
Volume III: Repair Cost System

THE MITRE CORPORATION



DECEMBER 1975  
FINAL REPORT

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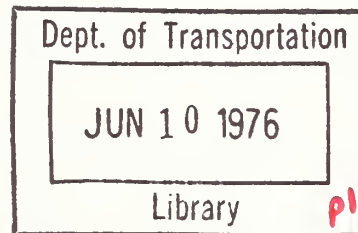
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16. Abstract  The Service, Inventory and Maintenance System (SIMS) is a computer-based information system designed to assist urban transit systems in the management of their bus service, maintenance and inventory operations. SIMS comprises three interrelated program modules: The Service/Unit-Change, Repair Cost and Inventory modules. This report describes the overall structure, inputs, reports, files and data processing functions of the SIMS Repair Cost system.					
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## PREFACE

The Service, Inventory and Maintenance System (SIMS) is a computerized information system designed to assist urban transit systems in the management of their bus service, maintenance and inventory activities. The SIMS system was developed by the MITRE Corporation under the sponsorship of the Office of Transit Management, Urban Mass Transportation Administration.

SIMS comprises three interrelated program modules. The Service/Unit-Change module is designed to assist transit management in the scheduling and control of the vehicle servicing and maintenance operations. Labor and cost reports on the bus maintenance activity are produced by the Repair-Cost module. The Inventory module provides management and financial control reports on all transit inventory activity such as parts issues, purchase orders and receipts.



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## 1.0 INTRODUCTION

Under the sponsorship of the Urban Mass Transportation Administration (UMTA), an automated system to record, analyze, and report on the maintenance activities of bus systems in the urban transit industry is being developed. This information system is the Service, Inventory, and Maintenance System (SIMS).

The SIMS Repair Cost System is one component of SIMS. It is designed to provide management with detailed monthly reports on maintenance activities. The description of the system includes details of the reports, inputs, files, procedures, and the computer program functions. Each computer program is described in detail. A source listing of each program is provided in Supplement I to this document.

To facilitate the implementation of the SIMS Repair Cost System on various object computers, the software has been written in ANSI COBOL. The programs were tested, using an IBM 360/50 computer.

The system is in use at Alameda-Contra Costa Transit District (ACTD) and Dallas Transit System (DTS) under demonstration sponsored by UMTA. The system is operated on a service bureau basis in the localities of the demonstration projects. The object computer for ACTD is an IBM 360/65 and for DTS, an IBM 370/145. These computers, and the 360/50 used for testing operate under OS, version 21.6.



## 2.0 OVERALL DESCRIPTION OF SIMS REPAIR COST SYSTEM

The SIMS Repair Cost System consists of programs, files and procedures to accept and store maintenance labor transactions and to produce monthly reports on maintenance operations. Through the reporting on past activities, management is provided with information that will support the control and scheduling of future operations.

Maintenance labor transactions are entered and edited; valid records are stored in the Labor Transaction History File, CN1510.RPC.M.TRANHIST( ). ( ) indicates that the file is a generation data set.

The Repair Cost System is dependent on the other two modules of SIMS for report generation. The system is designed to utilize master files, maintained by these modules, as well as the labor history file. The Inventory Transaction History File, CN1744.INV.M.TRANTAPE( ), maintained by the SIMS Inventory System, provides parts cost data. The Vehicle Master File, CN1510.SRV.M.VEHICLE( ), maintained by the SIMS Service/Unit Change System, provides vehicle mileage data.

Figure 2.0-1 is a flowchart of the Repair Cost System. The program libraries and two report control files are contained in a private disk pack, TMDISK. This disk pack also contains major system files and program libraries for the Service/Unit Change System.

The major input consists of the maintenance labor records, identifying work performed. These records may be in the form of cards or on magnetic tape. The latter form is illustrated in the flowchart. If the labor records do not contain employee hourly pay rates, then an

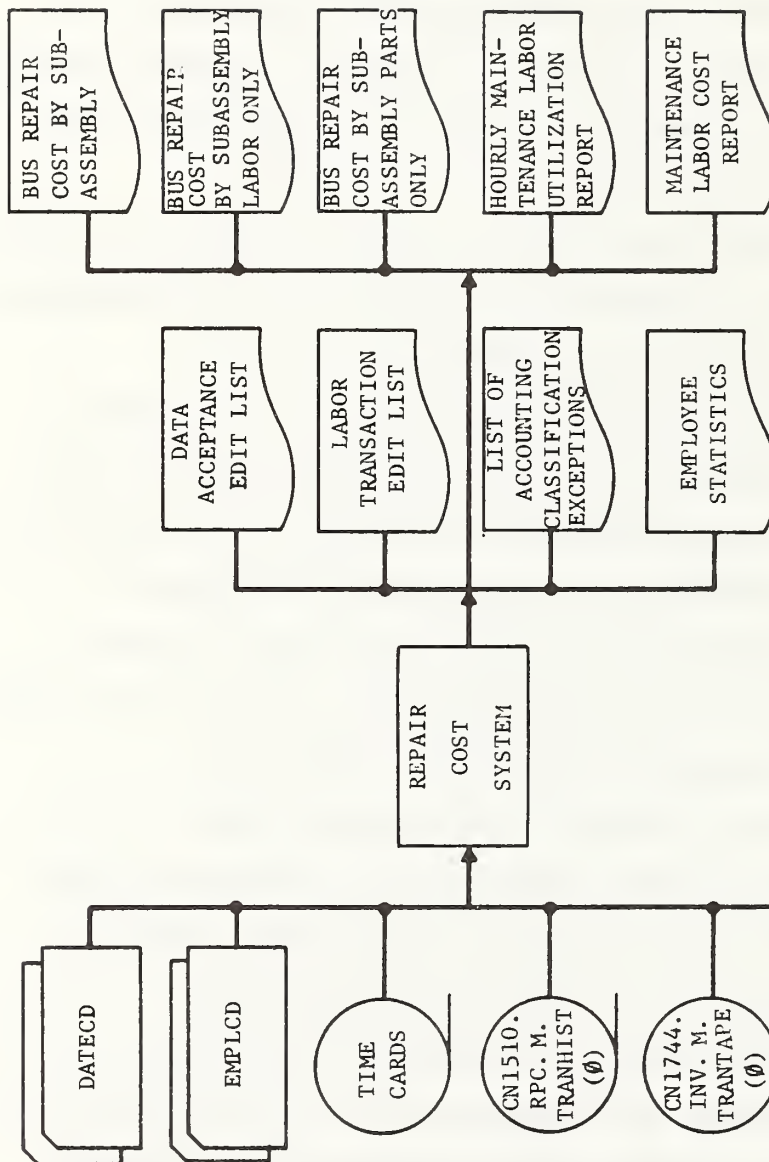


FIGURE 2.0-1  
SIMS REPAIR COST SYSTEM FLOWCHART

employee master file, EMPLCD, containing records of hourly rates, is also input to the program that maintains the transaction history file.

The Labor Transaction History File, together with the Inventory Transaction History File and the Vehicle Master File provide input to the report generator programs. Records are extracted from the three files, in accord with the report requests specified in the Date Card File, DATECD, and placed in temporary storage for report generation. Report programs are normally executed monthly. A computer run for report preparation may be made at any time independent of or in conjunction with file maintenance.

The reports generated are of two types. The first type, edit reports, is produced automatically by the system. Edit reports are designed to display transactions rejected by the system because of data error. These reports are used as source documents for the preparation of corrected transactions. The second type is on-demand reports. These consist of two sets of reports for which the user must make a request. These sets of on-demand reports are:

- (a) Bus Repair Cost reports which provide the user with detailed revenue vehicle repair cost information. One type of report within this set displays subassembly repair costs for each bus. The other type summarizes subassembly repair costs by operating division. The content and number of each type of report is controlled by the user. User options as to content are in two dimensions--the nature of the costs displayed and the reporting period. The latter can be for any number of months up to six months. Content options are:
  - (1) labor and parts costs,
  - (2) labor cost only, and
  - (3) parts cost only.

The user can also elect to exercise one, two, or all three content options in the same report request.

- (b) Maintenance Labor reports, which display the use and cost of hourly maintenance labor by work categories, for each division and for the property as a whole.

Currently, the SIMS Repair Cost System is in use at ACTD and DTS. In both applications, the system has been installed at an independent computer center. For ACTD, the system has been installed at a commercial service bureau on an IBM 360/65. For DTS, the system has been installed at the municipal computer center on an IBM 370/145. The transit property supplies the maintenance labor records. These records are also used to produce the property's maintenance cost distribution reports under its existing system. At DTS, the records are also used to prepare the bi-weekly non-operator payroll.

The labor and materials records, that are the data sources for the report programs, contain transaction identification data that is specific to each property. To accommodate the property-specific data in these records, there are two versions of all but one of the programs in the system. Modification of these programs is required before the system is installed at a transit property.

System execution is controlled by JCL cards, which invoke cataloged procedures stored in the computer center's system library, and by report request cards. ACTD supplies the control cards to the computer center; the municipal computer center prepares the job deck for DTS. The procedures used are specific to the transit property and to the computer center, although there are similarities in their content.

### 3.0 REPAIR COST SYSTEM OUTPUTS

Output of the SIMS Repair Cost System consists of reports and error messages. The reports produced are listed in Table 3.0-1. They can be categorized as:

- (a) User Reports: There are five user reports that can be generated by the Repair Cost System. These reports are described in Section 3.1. They are on-demand reports, normally requested monthly. The reports are designed to provide maintenance management with information necessary for effective maintenance operation and control.
- (b) Edit Reports: There are five edit reports, generated automatically by the system. These reports are described in Section 3.2. They are designed to ensure that the correct information is being entered in the system.

The error messages that can be generated during system execution are described in Section 3.3. These messages are designed to indicate to system operators the cause of system malfunctions.



TABLE 3.0-1

## REPAIR COST SYSTEM REPORTS

<u>Subsection Number</u>	<u>Report Code</u>	<u>Report Title</u>	<u>Frequency</u>	<u>Generating Program</u>
User Reports:				
3.1.1	R1	Bus Repair Cost By Subassembly	Monthly	RP080
		Subassembly Repair Cost - Division Summary	Monthly	RP080
3.1.2	R2	Hourly Maintenance Labor Utilization Report	Monthly	MLM200
		Maintenance Labor Cost Report	Monthly	MLM200
Edit Reports:				
3.2.1		Data Acceptance Edit List	Each time Labor Trans- & DA500D action History File is updated	DA500A
3.2.2		Labor Transaction Edit List		DG500
3.2.3		List of Accounting Classification Exceptions	Monthly	CLASSM
3.2.4		Employee Card Edit List	Each time Labor Trans- action History File is updated (see note)	EMP100
		Employee Statistics		

Note: These reports, described in Section 3.2.4, are generated at  
Dallas Transit System only.



### 3.1 User Reports

The five user reports are produced through the execution of two programs. The reports produced by each program are described together in one of the two following subsections. Each report is described in terms of the report's usefulness, a report specification, and a sample report.

#### 3.1.1 Bus Repair Cost Reports

The Bus Repair Cost reports are on-demand reports, normally requested monthly. They are designed to provide maintenance management with detailed revenue vehicle repair cost information. Comparison of the reports over a period of time (for example, three to six months) will assist management in the assignment of buses to routes, vehicle retirement decisions, and other related policy decisions. Summary costs by division are also reported. This permits comparison among divisions and with system totals.

Two types of report are produced through the execution of the Bus Repair Cost Report Generator program (RP080). The content and number of each type of report is controlled by the user. User options as to content are in two dimensions--the nature of the costs displayed and the reporting period. The latter is specified by the user in the report request record and can be for any number of months up to six months. Content options are:

- (a) labor and parts costs - RPCR45,
- (b) labor cost only - RPCR50, and
- (c) parts cost only - RPCR55.

These options are exercised through JCL; the user selects the cataloged procedure (referenced above) to be executed. The user can elect to exercise one, two, or all three content options in the same report request by invoking the appropriate procedures.

The two types of report are:

- (a) Bus Repair Cost by Subassembly: An example of this type of report is provided in Figure 3.1-1. Specifications of the report are described in Table 3.1-1. It lists vehicle repair costs for each revenue vehicle in the system. These costs are displayed in terms of vehicle groups (subassembly) and of the total for these groups. This vehicle total is also shown in terms of cents per mile. Costs attributable to accidents and vandalism are excluded from the subassembly costs and displayed separately.
- (b) Subassembly Repair Cost - Division Summary: An example of this type of report is provided in Figure 3.1-2. Specifications of the report are described in Table 3.1-2. It displays total repair cost for each division and the system by vehicle group (subassembly) and in total. Costs attributable to accident and vandalism repairs are excluded from subassembly and total costs and displayed separately.

### 3.1.2 Maintenance Labor Reports

The maintenance labor reports are on-demand reports, normally requested monthly. They are designed for use by management to monitor and plan for labor utilization. The reports display details of the use and cost of hourly maintenance labor by division and for the property, in total and in four major categories:

- (a) revenue vehicles,
- (b) Maintenance Department,
- (c) other departments, and
- (d) fringe.

AC TRANSIT  
BUS REPAIR COST BY SUBASSEMBLY  
FOR PERIOD 02/01/73 THRU 02/28/73 IN DOLLARS

DIVISION 02		*---AXLE---*														CENTS PER MILE		ACCIDENT		VANDAL	
RUS	INSPECTION	FRONT	REAR	BRKES	CLUTCH	COOL	ELEC	ENG	TRANS	WHEELS	BODY	A/C	MISC.	TOTAL	MISC.	TOTAL	MISC.	TOTAL	MISC.	TOTAL	
00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	
0311	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0312	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0313	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0314	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0316	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0317	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0318	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0319	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0320	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0321	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0322	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0323	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0324	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0325	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0326	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0327	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0328	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0329	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0331	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0332	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0334	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0335	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0336	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0337	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0338	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0339	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0500	645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0501	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0502	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0503	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0504	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0505	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0506	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0507	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0508	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0509	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0510	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

FIGURE 3.1-1  
BUS REPAIR COST  
BY SUBASSEMBLY REPORT

TABLE 3.1-1

## REPORT SPECIFICATION

GENERATING PROGRAM: RP080FREQUENCY: MonthlyREPORT HEADER: Bus Repair Cost By Subassembly  
For period MM/DD/YY thru MM/DD/YY in DollarsORGANIZATION: The report contains a separate section for each division of the property. Within each section, information is displayed for individual buses, in ascending bus number order.CONTENTS:

<u>COLUMN HEADER</u>	<u>DESCRIPTION</u>
BUS	Vehicle number
INSP.        00	Cost of inspection work
	Cost of repair work, including unit rebuild, for vehicle subassemblies:
AXLE	
- FRONT    01	Front axle
- REAR     02	Rear axle
BRAKES        04	Brake system, including drum
CLUTCH        05	Clutch
COOL          06	Cooling system
ELEC          07	Electrical system
ENG          08	Engine
TRANS        17	Transmission
WHEELS       19	Wheels
BODY          24	Body
A/C          26	Air conditioning system
MISC.	Cost of miscellaneous work, not else- where classified
TOTAL	Total cost of inspection and repair work
CENTS PER MILE	Total cost divided by miles traveled by bus during report period
ACCI" T	Cost of repair work resulting from accidents
VANDAL	Cost of repair work resulting from vandalism

AC TRANSIT  
SUBASSEMBLY REPAIR COST -- DIVISION SUMMARY  
FOR PERIOD 02/01/73 THRU 02/28/73 IN DOLLARS

	DIV 02	DIV 03	DIV 04	ALL DIVISIONS	
	COSTS	COSTS	COSTS	COSTS	
	CENTS/ MILE	CENTS/ MILE	CENTS/ MILE	CENTS/ MILE	
00-INSP	4,242	748	4,122	9,112	0.45
01-F-AXLE	324	169	193	686	0.03
02-R-AXLE	468	856	1,426	2,750	0.14
04-BRAKES	2,316	5,213	8,281	15,810	0.78
05-CLUTCH	1,352	870	2,148	4,370	0.22
05-COIL	1,293	812	2,170	4,275	0.21
07-ELECT.	3,176	1,717	5,579	10,471	0.52
08-ENGINE	6,902	2,684	11,306	20,892	1.04
17-TRANS	1,771	1,243	1,713	4,727	0.23
19-WHEELS	130	376	138	344	0.02
24-BODY	2,871	2,257	4,339	9,467	0.47
26-A/C	105	010	037	152	0.01
MISC.	9,534	9,557	16,178	35,269	1.75
TOTAL	34,434	26,212	57,629	118,325	5.87
ACCIDENT	3,471	1,192	4,252	8,915	
VANDAL	1,514	2,236	2,406	6,156	

FIGURE 3.12  
SUBASSEMBLY REPAIR COST  
DIVISION SUMMARY REPORT

TABLE 3.1-2  
REPORT SPECIFICATION

GENERATING PROGRAM: RPO80

FREQUENCY: Monthly

REPORT HEADER: SUBASSEMBLY REPAIR COST--DIVISION SUMMARY  
FOR PERIOD MM/DD/YY THRU MM/DD/YY IN DOLLARS

ORGANIZATION: Information displayed is organized by subassembly (group) code in ascending order. A total line and separate lines for accident cost and vandalism cost are included.

CONTENTS

COLUMN HEADER

DESCRIPTION

DIV 02	Operating division identification (see note)
No header	Cost of repair work performed on revenue vehicles assigned to the division.
MILE	Cost divided by miles traveled by all vehicles assigned to the division in the report period.
DIV 03	As for Division 02
No header	
MILE	
DIV 04	As for Division 02
No header	
MILE	
ALL DIVISIONS	Identifies columns containing system totals
No header	Total repair cost for all revenue vehicles in the system
MILE	Cost divided by miles traveled by all revenue vehicles in the system in the report period.

Note: Identification of the divisions is specific to the user.

Work performed directly on revenue vehicles is reported in the first category. General bus repair, scheduled inspections, rebuilding of replaceable components (units), and servicing and cleaning are reported separately. A subtotal of these types of work represents the mainstream of Maintenance Department work. Repairs due to accidents and vandalism are also reported separately and included in the revenue vehicle total.

The second category, Maintenance Department, includes work performed in maintaining the shops and equipment. Other Departments represents labor utilized in support of other organizations within the property. The fourth category, fringe, accounts for non-work time--that is, vacations, holidays, sick time, and other hours--paid for under the employee fringe benefit program.

All hourly maintenance labor is accounted for among the four major categories of work. Overtime, which is included in the totals, is displayed as a separate line item; this displays to management premium lost time incurred.

The reports are generated through the execution of the Maintenance Report Generator program, MLM200. The reports produced are:

- (a) Hourly Maintenance Labor Utilization: An example of the report is provided in Figure 3.1-3. Specifications of the report are described in Table 3.1-3. It displays the labor utilization information, described above, in terms of hours.



APRIL 73

AC TRANSIT

APRIL 73

HOURLY MAINTENANCE LABOR UTILIZATION

	DIV 02	DIV 03	DIV 04	SHOP	TOTAL
REPAIR	2,232.10	946.90	2,224.60	1,181.50	6,585.10
REPAIR	223.70	48.30	332.30	1,468.70	2,069.70
INSPECTION	894.60	535.00	1,177.50	8.00	2,615.10
SERVICE/CLEAN	3,884.20	1,719.90	4,190.40	4.00	9,798.50
SUB-TOTAL	7,231.60	3,249.80	7,924.80	2,662.20	21,068.40
ACCIDENT	734.70	94.00	452.40	8.00	1,288.40
VANDALISM	172.90	201.50	162.00	296.50	832.90
TOTAL	8,138.50	3,545.30	8,539.20	2,966.70	23,189.70

MAINTENANCE DEPT

SERVICE VEH.S	15.00	0.00	5.00	0.00	20.00
SHOP & EQUIP	2.00	0.00	7.50	183.80	193.30
OTHER	565.00	234.00	942.50	724.90	2,466.40
TOTAL	582.00	234.00	955.00	908.70	2,679.70
MAINT DEPT TOTAL	8,720.50	3,779.30	9,494.20	3,875.40	25,869.40

OTHER DEPARTMENTS

BLDG & GROUNDS	3.30	0.00	0.00	359.00	359.00
OTHER VEH.S	201.40	12.50	36.00	13.00	262.90
OTHER	491.80	218.00	547.20	870.10	2,127.10
SUB-TOTAL	696.50	230.50	583.20	1,242.10	2,749.00
PROJECTS	0.00	0.00	0.00	0.00	0.00
WORKED-HOUR TOTAL	9,413.70	4,009.80	10,077.40	5,117.50	28,618.40
FLYING: VACATION	612.00	98.00	853.34	468.00	2,021.34
SICK	98.30	56.00	344.00	232.00	720.00
HOLIDAY	3.30	8.00	6.00	0.30	16.00
OTHER	4.30	28.20	57.75	7.22	97.47
TOTAL	704.30	180.20	1,263.09	707.22	2,854.81
TOTAL HOURS	10,118.00	4,190.00	11,340.49	5,824.72	31,473.21
G.T. HOURS	46.70	19.70	154.90	47.10	268.40

FIGURE 3.1-3  
HOURLY MAINTENANCE LABOR  
UTILIZATION REPORT



TABLE 3.1-3

REPORT SPECIFICATION

GENERATING PROGRAM: M1M200

FREQUENCY: Monthly

REPORT HEADER: HOURLY MAINTENANCE LABOR UTILIZATION

ORGANIZATION: Information displayed is organized by major categories, and within each major category by sub-categories. of work performed. Appropriate subtotals and an overall total are included. See Figure 3.1-3 for titles of work categories.

CONTENTS

COLUMN HEADER

DESCRIPTION

DIV02

Division identification. This

DIV03

identification is specific to the user.

DIV04

SHOP

Central maintenance facility

TOTAL

Under each column header, the number of maintenance labor hours charged to each work category by personnel of the organizational unit identified is shown.

- (b) Maintenance Labor Costs: An example of the report is provided in Figure 3.1-4. Specifications of the report are described in Table 3.1-4. It is essentially identical with the Hourly Maintenance Labor Utilization report. However, actual payroll costs are displayed instead of hours. Thus, the report provides a cost interpretation of the use of labor resources. Also, department totals are expressed in terms of cents per hour.

APRIL 73	AC TRANSIT				APRIL 73	
	MAINTENANCE LABOR COSTS				CENTS PER MILE	
	DIV 02	DIV 03	DIV 04	SHOP	TOTAL	
REVENUE VEHICLES						
REPAIR	\$14,604.86	\$6,130.93	\$14,775.95	\$7,502.83	\$43,014.57	1.99
REPAIRS	1,381.12	287.69	2,113.86	9,308.49	13,091.16	.60
INSPECTION	5,286.81	3,245.93	7,351.06	53.08	16,033.85	.74
SERVICE/CLEAN	21,620.51	9,572.13	22,688.98	25.23	53,906.85	2.49
SUB-TOTAL	42,993.30	19,236.65	46,929.85	16,886.63	126,046.43	5.82
ACCIDENT	4,575.01	599.08	2,824.97	50.37	8,049.43	.37
PAVEMENT	1,141.13	1,391.39	1,157.27	1,732.57	5,422.36	.25
TOTAL	48,709.44	21,227.12	50,912.09	18,667.57	139,516.22	6.44
MAINTENANCE DEPT						
SERVICE VEH.S	93.90	0.00	34.42	0.00	128.32	.01
SHOP & EQUIP	11.40	0.00	48.67	1,142.42	1,202.49	.06
OTHER	3,879.99	1,711.33	5,892.36	4,631.38	16,065.06	.74
TOTAL	3,935.29	1,711.33	5,975.45	5,773.80	17,395.87	.80
MAINT DEPT TOTAL	52,644.73	22,938.45	56,887.54	24,441.37	156,912.09	7.24
OTHER DEPARTMENTS						
BLDG & GROUNDS	0.00	0.00	0.00	2,324.74	2,324.74	.11
OTHER VEH.S	1,266.01	78.42	239.16	82.37	1,656.94	.08
OTHER	2,818.44	1,174.42	3,362.06	5,211.09	12,566.01	.58
SUB-TOTAL	4,084.45	1,252.82	3,592.22	7,618.20	16,547.69	.76
SUBJECTS	0.00	0.00	0.00	0.00	0.00	.00
WORKED-HOUR TOTAL	56,729.18	24,191.27	60,479.76	32,059.57	173,459.78	8.01
FRINGE VACATION	3,744.22	545.94	5,285.85	2,822.50	12,398.51	.57
SICK	493.76	303.50	2,049.69	1,486.32	4,333.27	.20
HOLIDAY	0.00	41.36	54.47	0.00	95.83	.00
OTHER	27.82	176.52	370.44	45.85	620.63	.03
TOTAL	4,265.80	1,067.32	7,760.45	4,354.67	17,448.24	.81
TOTAL COST	60,994.98	25,258.59	68,240.21	36,414.24	190,908.02	8.81
O.T. COST	\$380.73	\$206.54	\$1,421.39	\$610.00	\$2,618.66	.11

FIGURE 3.14  
MAINTENANCE LABOR  
COST REPORT

TABLE 3.1-4

REPORT SPECIFICATION

GENERATING PROGRAM: M1M200                      FREQUENCY: Monthly

REPORT HEADER: MAINTENANCE LABOR COSTS

ORGANIZATION: Information displayed is organized in the same manner  
as on the Hourly Maintenance Labor Utilization report  
(see Table 3.1-3).

CONTENTS

COLUMN HEADER

DESCRIPTION

Column headings are as specified for the Hourly Maintenance Labor  
Report.

Under each column header, the dollar cost of maintenance labor hours  
charged to each work category by personnel of the organizational unit  
identified is shown.

### 3.2 Edit Reports

Edit reports are reports produced by the system to enable the user to monitor system input and to correct input errors. These reports are generated automatically by the system. A description of each edit report is provided in the following subsections.

#### 3.2.1 Data Acceptance Edit List

The maintenance labor distribution records entered in the Repair Cost System must meet specified data acceptance criteria before further processing is performed. These criteria are in the form of edit criteria (that is, checking field contents). The criteria are specified in detail in the description of the Data Acceptance program, DA500, in Sections 7.1 and 7.2. Transactions that fail to meet these criteria are rejected and printed on the Data Acceptance Edit List.

An example of the edit list is provided in Figure 3.2-1. Specifications for the report are described in Table 3.2-1.

#### 3.2.2 Labor Transaction Edit List

The maintenance labor distribution records successfully processed by the Data Acceptance program are tested again against edit criteria in the Labor Transaction History File Edit/Update program, DG500. These edit criteria are specified in detail in the description of this program in Section 7.3. Field contents are checked against values specified in the program. In particular, the account number in the input record is checked to determine if the input value is valid. Transactions that fail to meet the edit criteria are rejected and printed

11/08/73  
PAGE 1

AC TRANSIT  
DATA ACCEPTANCE EDIT LIST  
FOR PROCESSING DATE 11/08/73

LABOR DISTRIBUTION CARD	407407 7717377663	7511--16	151852777777-7	*
LABOR DISTRIBUTION CARD	407407 7717377663	75114746	#618527777777-7	*
LABOR DISTRIBUTION CARD	40360777777777776663	75115476	50 2527777777-7	*
LABOR DISTRIBUTION CARD	40070777777777776663	75116-77	25 8527777777-7	*

FIGURE 3.2.1  
DATA ACCEPTANCE EDIT LIST

END OF PROGRAM. EAS004 PRINTED 11/08/73

TABLE 3.2-1

REPORT SPECIFICATION

GENERATING PROGRAM: DA500                      FREQUENCY: Each time the Labor  
Transaction History File  
is updated

REPORT HEADER:      DATA ACCEPTANCE EDIT LIST  
FOR PROCESSING DATE MM/DD/YY

ORGANIZATION: Report lines are printed in the order that the trans-  
actions are entered.

CONTENTS

COLUMN HEADER

DESCRIPTION

Two lines are printed for each transaction rejected. The first line contains a listing of the transaction. The second line contains an asterisk under the low order byte of each field in error.

on the Labor Transaction Edit List.

An example of the edit list is provided in Figure 3.2-2. Specifications for the report are described in Table 3.2-2.

### 3.2.3 List of Accounting Classification Exceptions

As a preliminary to the generation of the maintenance labor reports, maintenance labor distribution records are classified for reporting purposes. During execution of the Maintenance Report Extract program, input record values that identify the nature of the transaction are compared to valid combinations of identifying parameters contained in a classification table. If the input values cannot be matched with a valid combination in the table, the transaction is rejected and is printed on the List of Accounting Classification Exceptions.

An example of the edit list is provided in Figure 3.2-3. Specifications for the report are described in Table 3.2-3.

### 3.2.4 Employee Card Edit List

The processing of maintenance labor distribution records may require the use of an employee master file. At DTS, this is a requirement. Employee records, on cards, are input to the DTS Employee File Extract program, EMP100, and a disk file, containing the employee number organization code and hourly pay rate for each maintenance employee, is created. During execution of the program, the input records are tested against certain edit criteria. These are described in detail in Section 7.10. Input records that fail to meet the edit criteria are rejected and printed on the Employee Card Edit List.



04	LABOR DISTRIBUTION CARE	0300	0	12	*	101362600371942100000216	060473
04	LABOR DISTRIBUTION CARE	0200	0	12	*	101362600371942100000218	060473
04	LABOR DISTRIBUTION CARE	0200	0	12	*	101362600371945160000215	060473
03	LABOR DISTRIBUTION CARE	2000	0	12	*	117765100507414100000205	060473
11	LABOR DISTRIBUTION CARE	0800	240012	110235170	*	41440022114	061173
	LABOR DISTRIBUTION CARE	*	021612	101455900	*	415000000000	060473
	LABOR DISTRIBUTION CARE	*	004012	098050300	*	415000000000	060473
04	LABOR DISTRIBUTION CARE	0800	0	12	*	051862600	060473
04	LABOR DISTRIBUTION CARE	0800	0	12	*	055662600	060473
04	LABOR DISTRIBUTION CARE	10800	0	12	*	057265700	060473
21	LABOR DISTRIBUTION CARE	20150	070012	809316880	*	426401000000	062173
15	LABOR DISTRIBUTION CARE	0150	200012	11053956400	*	41410020510	061573
29	LABOR DISTRIBUTION CARE	0350	170012	53052556400	*	41410020512	062573
25	LABOR DISTRIBUTION CARE	0300	170012	53102662600	*	41410020512	062573
18	LABOR DISTRIBUTION CARE	0250	240012	11052556400	*	41410020576	061873
25	LABOR DISTRIBUTION CARE	0200	300012	39101448400	*	41410040550	062573
13	LABOR DISTRIBUTION CARE	10200	040012	02057350800	*	41410020500	061373

FIGURE 3.2.2  
LABOR TRANSACTION EDIT LIST

TABLE 3.2-2

REPORT SPECIFICATION

GENERATING PROGRAM: DG500

FREQUENCY: Each time the Labor  
Transaction History  
File is updated

REPORT HEADER: LABOR TRANSACTION EDIT LIST  
FOR PROCESSING DATE MM/DD/YY

ORGANIZATION: Report lines are printed in the order that the trans-  
actions are processed.

CONTENTS

COLUMN HEADER

DESCRIPTION

Two lines are printed for each transaction rejected. The first line contains a listing of the transaction. The second line contains an asterisk under the low order byte of each field in error.

11/18/73

## AC TRANSIT

## LIST OF ACCOUNTING CLASSIFICATION EXCEPTIONS

PAGE 1

C1	03000000	25	00066450-	4634000000	050173
C1	10200000	12	09345080-	4210000000	050173
C1	10800000	12	09355180-	2072010000	050173
C1	10800000	12	09666260-	2072010000	050173
C1	08000000	12	05764790-	4210000000	050173
C1	08000000	12	10266260-	2072010000	050173
C1	20600000	13	11164790-	4210000000	050173
C1	08000000	14	13025640-	2072010000	050173
C1	08000000	14	13126260-	2072010000	050173
C1	20800000	14	13236360-	2072010000	050173
C1	08000000	14	13364790-	4210000000	050173
C1	10800000	14	14265920-	2072010000	050173
C1	08000000	26	16376350-	2072010000	050173
C1	08000000	26	16566350-	4634000000	050173
C1	08000000	26	16926260-	4634000000	050173
C1	08000000	26	16934790-	4311000000	050173
C1	08000000	26	16985170-	4634000000	050173
C2	02500000	25	00066450-	4634000000	050273
C2	10200000	12	09345080-	4210000000	050273
C2	10800000	12	09355180-	2072010000	050273
C2	08000000	12	09666260-	2072010000	050273
C2	08000000	12	05764790-	4210000000	050273
C2	20800000	12	09866360-	2072010000	050273
C2	08000000	12	10266260-	2072010000	050273
C2	08000000	13	11164790-	4210000000	050273
C2	08000000	13	11385170-	2072010000	050273
C2	10800000	13	11795080-	4598000000	050273
C2	08000000	14	13025640-	2072010000	050273

FIGURE 32-3

## LIST OF ACCOUNTING CLASSIFICATION EXCEPTIONS

TABLE 3.2-3

REPORT SPECIFICATION

GENERATING PROGRAM: CLASSM

FREQUENCY: Monthly

REPORT HEADER: LIST OF ACCOUNTING CLASSIFICATION TRANSACTIONS

ORGANIZATION: Report lines are printed in the order that the transactions are processed

CONTENTS

COLUMN HEADER

DESCRIPTION

One line is printed for each transaction rejected. This line contains a listing of the transaction.

An example of the edit list is provided in Figure 3.2-4. Specifications for the report are described in Table 3.2-4.

The DTS Employee File Extract program also generates another report, Employee Statistics. This report summarizes the results of processing the employee records. It displays, by organizational unit, the number of valid records and the number of records rejected. This enables the user to ascertain quickly whether all employee records required for the processing of maintenance labor transactions were accepted. If all required employee records have been accepted, the edit list contains only records of non-maintenance employees. Otherwise, the user can ascertain from the edit list which employee records were rejected and corrective action can be taken.

An example of the Employee Statistics report is provided in Figure 3.2-5. Specifications for the report are described in Table 3.2-5.

DALLAS TRANSIT  
EMPLOYEE CARD EDIT LIST  
FOR PROCESSING DATE 11/16/73

EMPLOYEE CARD	C3721814J C MORGAN	PCRTFF	C1F7A3162300C29545222966C021724073172135267
EMPLOYEE CARD	C37213149JCHN W EUCKELFA	TRAFF CK	T1C6E231622002729458055J1E0C35C073172050472
EMPLOYEE CARD	C37213168JCHANY LEE VAULCANSPCTFF	PCRTFF	C3PPE23162400C29545454661C93111243073172072672
EMPLOYEE CARD	C37213194JCHNIF STEPHENS JMFCTFF	PCRTFF	C3PPE231622002729545454667013125120672120672
EMPLOYEE CARD	C372132241LEWIS W REORLPA JMTFAFF CK	TRAFF CK	T1C08031622000279461947063112551C71773C71773
EMPLOYEE CARD	C372132450PTURC HFRNALFZ	PCRTFF	C3PPE231622002729545454711286251023250C7177351773
EMPLOYEE CARD	C37214129GILBERT W FCLCCPA TRAFF CK	TRAFF CK	T1C080316220027295454547207 5096C313073172112065
EMPLOYEE CARD	C37214172CLAUD JAMES TRAF	TRAFF CK	T1C080316220027295454547207 5096C313073172112065
EMPLOYEE CARD	C37214432CALLIE F WALKER	TRAFF CK	T1C080316220027295454547207 5096C313073172112065
EMPLOYEE CARD	C372132093PINERT Y BENAFF	PCRTFF	C3PPE23162400C29545454661C93111243073172050472
EMPLOYEE CARD	C37213248ABELING L TORRES	PCRTFF	C3PPE2316220027295454547207 5096C313073172112065

FIGURE 32-4  
EMPLOYEE CARD EDIT LIST

TABLE 3.2-4

REPORT SPECIFICATION

GENERATING PROGRAM: EMP100

FREQUENCY: Each time the Labor  
Transaction History  
File is updated

REPORT HEADER: EMPLOYEE CARD EDIT LIST  
FOR PROCESSING DATE MM/DD/YY

ORGANIZATION: Report lines are printed in the order that the input  
records are processed.

CONTENTS

COLUMN HEADER

DESCRIPTION

Two lines are printed for each input record rejected. The first  
contains a listing of the record. The second line contains an asterisk  
under the low order byte of each field in error.

DALLAS TRANSIT  
EMPLOYEE STATISTICS  
-----

10/26/73

	VALID	REJECTS
DB72		9
BF	44	
DS	50	
BF	15	
DB73		2
BF	37	
OTHER DEPT. CODE		0
NON-T	-----	1 -----
TOTAL	146	12

END OF STATISTICS REPORT

FIGURE 3.2-5  
EMPLOYEE STATISTICS REPORT



TABLE 3.2-5

REPORT SPECIFICATION

GENERATING PROGRAM: EMP100

FREQUENCY: Each time the Labor  
Transaction History  
File is updated

REPORT HEADER: EMPLOYEE STATISTICS

ORGANIZATION: The number of employee records processed is displayed  
by organizational unit and in total. The organizational  
units are identified by codes that are specific to the  
user.

CONTENTS

COLUMN HEADER

DESCRIPTION

VALID

The number of valid maintenance  
employee records for each organiza-  
tional unit.

REJECTED

The number of employee records rejected.  
Records of maintenance employees  
rejected are invalid records. All  
records of non-maintenance employees  
are rejected.

### 3.3 Error Messages

In addition to the edit lists generated automatically by the data acceptance and edit/update programs (see Section 3.2), there are error messages designed to inform the user of problems during system operation. Upon printing of an error message, program execution is terminated. Some errors are serious enough to result in either the bypassing of the remainder of the job step or cancellation of the entire job.

The Repair Cost System error messages and the programs with which they are associated are listed in Table 3.3-1. Also given is the effect that the error has on the system--i.e., program termination only or system termination. The messages are listed according to error type. See Section 7.0 for the exact message wording in each program, and a description of the cause of the error.

TABLE 3.3-1

## SIMS REPAIR COST SYSTEM ERROR MESSAGES

<u>MESSAGE TYPE</u>	<u>GENERATING PROGRAM</u>	<u>SECTION REF. FOR PROGRAM DESCRIPTION</u>	<u>SYSTEM ACTION</u>
No input records	DA500D	7.2	S
	CLASSM	7.4	J
	EMP100	7.10	S
No date record	CLASSM	7.4	J
	MIM200	7.5	P
	RE100	7.6	S
	RP080	7.9	P
Invalid date	RE100	7.6	S
Invalid report request	RE200	7.7	S
	RE300	7.8	S

Note: The error initiates system action as follows:

- (1) S: execution of the entire job is cancelled.
- (2) J: execution of the job step is bypassed.
- (3) P: only program execution is terminated.



#### 4.0 REPAIR COST SYSTEM INPUT

The input to the SIMS Repair Cost System consists of:

- (a) maintenance labor transaction records. These records are described in Section 4.1.
- (b) records contained in files maintained by other modules of SIMS. These records are described in Section 4.2.
- (c) date cards and JCL cards. These inputs control the execution of the programs; they are briefly described in Section 4.3.

#### 4.1 Maintenance Labor Transactions

Maintenance labor transactions are input to the SIMS Repair Cost System in the form of 80-character card images. ACTD input is in the form of 1600 bpi blocked magnetic tape, containing 25 records per block. DTS input is in the form of a card deck. The existing labor distribution records, used for payroll and accounting purposes, are the input to the Repair Cost System. The format of the labor record varies as between the two properties. The ACTD format has been adopted as the basic format for the system. DTS records are reformatted during the execution of the Data Acceptance program, DA500D.

Irrespective of format, the labor distribution record identifies the nature of a job performed and the hours charged to that job by a maintenance employee. For repair jobs on revenue vehicles, the data elements include, as appropriate, codes that identify the group (sub-assembly) and unit (component) on which the work was performed, and the type and source of work performed. The specific formats of the labor distribution record at ACTD and DTS are described in the following subsections.

##### 4.1.1 ACTD Labor Records

The ACTD format of the labor distribution record contains the data elements that identify the nature of a maintenance job and the number of hours charged to that job by a maintenance employee. The format also includes an organization code, which identifies where the employee works, and the employee's hourly pay rate.

Figure 4.1-1 describes the format of the ACTD Labor Distribution Record. This record consists of the following data items:

<u>Character Position</u>	<u>Data Item</u>	<u>COBOL Field Name</u>
1-2	Day of month of transaction	CR-TR-DAY-MO
3	Transaction modifier code	CR-TR-NEG-CODE
4-9	Filler	FILLER
10	Time card indicator	CR-TR-TIME-CARD
11-30	Filler	FILLER
31	Shift code	CR-TR-SHIFT
32-35	Regular hours worked	CR-TR-REG-HOURS
36-39	Premium hours worked	CR-TR-PREM-HOURS
40-41	Group code	CR-TR-VEH-CODE
42-43	Unit code	CR-TR-UNIT-CODE
44-45	Organization code	CR-TR-ORG-CODE
46-47	Filler	FILLER
48	Work type code	CR-TR-WORK-TYPE
49	Reason code	CR-TR-REASON-CODE
50-53	Employee number	CR-TR-EMP-NBR
54-57	Hourly pay rate	CR-TR-PAY-RATE
58	Work order indicator	CR-TR-WO-CONTRL
59-62	Work order number	CR-TR-WO-NBR
63-66	Account number	CR-TR-ACCT-NBR
67-68	Sub-account number	CR-TR-SUB-ACCT
69	User division code	CR-TR-USER-DIV
70-73	Vehicle number	CR-TR-VEH-NBR
74	Fleet code	CR-TR-FLEET-CODE
75-80	Transaction date	CR-TR-TRAN-DATE

#### 4.1.2 DTS Labor Records

The DTS format of the labor distribution record contains the data elements that identify the nature of a maintenance job and the number of hours charged to that job by a maintenance employee. The format includes neither an organization code nor the employee's hourly pay rate (except when the employee is temporarily upgraded). The last two data elements are obtained from an employee master record. A second card file is input for this purpose.





Figures 4.1-2 and 4.1-3 describe the formats of the DTS Labor Distribution Record and the Employee Master Record. The former record consists of the following data items:

<u>Character Position</u>	<u>Data Item</u>	<u>COBOL Field Name</u>
1-4	Filler	FILLER
5	Transit identification code	ID-CODE-T
6-9	Employee number	DTS-EMP-NBR
10-12	Filler	FILLER
13-15	Exception hourly pay rate	DTS-PAY-RATE
16-17	Premium pay code	DTS-BONUS-CODE
18-24	Filler	FILLER
25	Exception pay code	EXCP-PAY-CODE
26-29	Filler	FILLER
30-33	Work order number	DTS-WO-NBR
34-37	Account number	DTS-ACCT-NBR
38-41	Vehicle number	DTS-VEH-NBR
42-43	Group code	DTS-VEH-CODE
44-45	Unit code	DTS-UNIT-CODE
46	Work type code	DTS-WORK-TYPE
47	Reason code	DTS-REASON-CODE
48-59	Filler	FILLER
60-61	Regular whole hours worked	DTS-REG-HRS
62-63	Regular minutes worked	DTS-REG-MIN
64	Filler	FILLER
65-66	Overtime whole hours worked	DTS-OVTIM-HRS
67-68	Overtime minutes worked	DTS-OVTIM-MIN
69-74	Transaction date	DTS-TRAN-DATE
75-80	Filler	FILLER

The Employee Master Record contains the following data items:

<u>Character Position</u>	<u>Data Item</u>	<u>COBOL Field Name</u>
1-4	Department code	IN-DEPT-CODE
5	Transit identification code	IN-TRANSIT
6-9	Employee number	IN-EMP-NO
10-37	Filler	FILLER
38-39	Job classification	IN-FUNCTION-CODE
40	Filler	FILLER
41	Acceptable account code	IN-ACCOUNT-CODE
42-44	Filler	FILLER

45	Payroll code	IN-SIX
46-50	Filler	FILLER
51-53	Hourly pay rate	IN-PAY-RATE
54-80	Filler	FILLER





## 4.2 SIMS Inputs

The Repair Cost System requires inputs from the other modules of SIMS. These inputs are required for the generation of reports.

### 4.2.1 Inventory Transaction History File

The Inventory Transaction History File is maintained by the SIMS Inventory System. It contains a permanent history of all inventory transactions.

The file contains 23 types of records. Only two types of records are used by the Repair Cost System. The materials issue and return-to-stores records are used to compute the cost of parts charged or credited to revenue vehicles. The parts costs are included in the Bus Repair Cost reports.

The Materials Issue Record and the Return-to-Stores Record, as defined for the Repair Cost System, contains the following data items:

<u>Character Position</u>	<u>Data Item</u>	<u>COBOL Field Name</u>
1-6	Inventory system processing date	PROCESS-DATE
7-8	Inventory class code	CLASS-CODE
9-17	Filler	FILLER
18-23	Transaction date	TRANS-DATE
24-25	Transaction code	TRANS-CODE
26-46	Filler	FILLER
47-53	Quantity issued (to two decimal places)	ISSUED-QTY
54-88	Filler	FILLER
89-92	Work order number	WORK-ORDER
93-98	Account number	ACCT-NO
99	Filler	FILLER
100-103	Vehicle number	VEH-NO
104	Fleet charge indicator code	FLEET-CODE
105-119	Filler	FILLER
120-127	Unit price	UNIT-PRICE

#### 4.2.2 Vehicle Master File

The Vehicle Master File is maintained by the SIMS Service/Unit Change System. It contains a set of records for each revenue vehicle owned by the property.

The file contains 11 types of records. Only two types of records are used by the Repair Cost System. The vehicle header record is used to identify each vehicle and the monthly summary records are the source of mileage traveled data. During report generation, monthly mileages are used to compute per mile costs for the report period. Such costs are displayed on both the Bus Repair Cost reports and on the Maintenance Labor Cost Report.

The Header Record, as defined for the Repair Cost System, contains the following data items:

<u>Character Position</u>	<u>Data Item</u>	<u>COBOL Field Name</u>
1-2	Record format code	I-VEH-FORMAT
3-6	Bus number	I-VEH-NO
7-12	Date of record	I-VEH-DATE
13-14	Fleet code	I-VEH-FLEET-NBR
15-18	Filler	FILLER
19-20	Division assignment	I-ASSIGNMENT
21-26	Division assignment date	I-ASSIGN-DATE
27-28	Prior division assignment	I-PRIOR-DIVIS
29-30	Filler	FILLER

The Monthly Summary Record, as defined for the Repair Cost System,  
contains the following data items:

<u>Character Position</u>	<u>Data Item</u>	<u>COBOL Field Name</u>
1-12	Filler	FILLER
13-17	Monthly miles	I-MILES-MTD
18-22	Monthly fuel consumption	I-FUEL-MTD
23-26	Monthly oil consumption	I-OIL-MTD
27-29	Monthly coolant consumption	I-COOL-MTD
30	Filler	FILLER

#### 4.3 Job Control Cards

Job control cards are necessary for the execution of the Repair Cost System. These control cards include:

- (a) Job Control Language (JCL) cards. These records include two record types. The first type are job cards, setup cards, and message cards required for job submission. The contents of these records vary according to the computer center requirements. The second type are execute (EXEC) cards. These records invoke cataloged procedures stored in the computer center's procedure library. These procedures execute the various Repair Cost System programs. A description of the procedures is given in Section 5.0 of this document.
- (b) request date cards. These records control the generation of reports by the system programs.

The Repair Cost System may be run in one of two ways. Both methods are in use, one at each of the two properties where the Repair Cost System has been installed.

At ACTD, one monthly job is executed. Maintenance labor transactions are entered, the Labor Transaction History File is updated, and requested reports are generated. At DTS, two separate types of jobs are executed. The transaction history file is updated bi-weekly, using the labor distribution records, as one job. Reports are generated monthly on a stand-alone basis.

The job deck for the all-inclusive monthly job consists of the following cards:

- (a) Job Cards, as required by the computer center.
- (b) an execute card to invoke procedure RPCDATE, which creates a file of request date records.
- (c) a data definition card, marking the presence of request date cards.



- (d) request date cards. These cards are required by report generator programs to provide a report period. Table 4.3-1 lists the report request codes and date requirements.
- (e) an execute card for procedure RPCU01, which processes the labor distribution records.
- (f) a data definition card--if input is in the form of a card deck.
- (g) a transaction deck--if card input is used.
- (h) execute cards for procedures to produce the desired reports. If any of the Bus Repair Cost reports are requested, an execute card for the procedure to extract the appropriate records from the files is required. Procedures for report generation are listed in Table 4.3-2.

The updating of the Labor Transaction History File as a separate job is accomplished by the job setup sequence steps (a) and (e) above; if input is a card deck, steps (f) and (g).

The execution of report generator programs on a stand-alone basis is accomplished by submitting job cards, request date cards, and execute cards for the appropriate procedures without processing transactions.

Detailed instructions for job submission and deck setup are provided in the SIMS Repair Cost System Operating Instructions Manual.

TABLE 4.3-1

REPORT REQUEST  
CODES AND DATES

<u>REPORT REQUEST CODE</u>	<u>TYPE OF REPORT</u>	<u>DATE REQUIREMENTS</u>
R1	Bus Repair Cost	Both beginning and ending dates of re- port period
R2	Maintenance Labor	Report date only

TABLE 4.3-2  
REPORT GENERATION PROCEDURES

<u>REPORT TITLE</u>	<u>REPORT CONTENT</u>	<u>PROCEDURE</u>
Bus Repair Cost By Subassembly	} Labor and parts cost Labor cost only Parts cost only	RPCR45
Subassembly Repair Cost-Division Summary		RPCR50
		RPCR55
Hourly Maintenance Labor Utilization Report	}	RPCR40
Maintenance Labor Cost Report		



## 5.0 SYSTEM PROCEDURES

The SIMS Repair Cost (R/C) System is currently being implemented at **two** transit properties. These properties are Alameda-Contra Costa Transit District (ACTD) and Dallas Transit System (DTS). In each implementation, the R/C System is installed at and executed by a service bureau. For DTS, the service bureau is the municipal computer center. For ACTD, the service bureau is Optimum System, Inc., Palo Alto, Calif.

The R/C program libraries and the majority of system files reside on a private disk pack, TMDISK. The Repair Cost Transaction History File and the SIMS Inventory Transaction History File are on magnetic tape. The procedures for executing the system are cataloged in the service bureau's procedure library. These procedures are invoked by user-supplied Job Control Language (JCL) cards.

The R/C procedures are basically the same at both properties. There are certain differences between the procedures used at the two properties. These differences are the result of:

- (a) output requirements of the properties,
- (b) differences in the format of transaction input,
- (c) variation in the operating procedures of the computer center where the R/C System is installed.
- (d) variation in the computer center billing algorithms, and
- (e) program region size availability.

The execution of the R/C System is described in terms of a basic job, which is, in turn, broken down into the cataloged procedures that constitute the job. Each procedure is described in this section by a

flowchart and a procedure specification. The latter consists of following items:

Procedure Name: This is the name specified in the execute card included in the job deck.

Program Executed: The identification and name of the program executed under the procedure is specified.

Functions: The basic purpose of the program is briefly described.

Procedure Flowchart: A reference to the associated flowchart.

Files: Both input and output files associated with the procedure are identified by file name and data set name. A reference to the section describing each file is provided.

Reports: Reports generated by the program are specified.

Other Output: Any other type of output is specified.

The procedures comprising the regular R/C System job, RPCJOB, are described in Section 5.1. Listings of the cataloged procedures as installed at ACTD and DTS are provided in Sections 5.2 and 5.3, respectively.

## 5.1 R/C System Execution

The Repair Cost System may be run in one of two ways:

- (a) an all-inclusive monthly job, RPCJOB. It updates the Labor Transaction History File (see Section 6.1) and produces edit reports of input transactions. Requested reports are also generated. The system is run at ACTD in this mode.
- (b) two separate jobs are executed. One job, RPCUPT, updates the Labor Transaction History File and produces the edit reports. This job is executed on the same time cycle as the Maintenance Department's payroll is prepared. The second job, RPCREP, produces the on-demand reports. It may be executed at any time after the necessary input data has been processed. The system is run at DTS in this mode.

Table 5.1-1 lists the cataloged procedures associated with the all-inclusive job, RPCJOB. The job stream necessitates execution of the procedures in a specified order. This order is defined in Table 5.1-1. At DTS, the file updating step is preceded by the execution of procedure RPCEMP. The procedure to update the Labor Transaction File at DTS varies from the one used at ACTD because different versions of the edit/update program are executed at each property.

The remainder of the procedures listed in Table 5.1-1, RPCEXT through RPCR55, generate the on-demand reports. These procedures may be executed as part of the all-inclusive job or on a stand-alone basis. The order in which the procedures are executed is critical since they are interrelated.

Some of the procedures are specific to the transit property. This is due to variations in input sources and output requirements. The procedures specific to DTS are RPCEMP and RPCU05. The procedure specific to ACTD is RPCU01.

TABLE 5.1-1

## RPCJOB PROCEDURES

<u>ORDER OF PROCEDURE EXECUTION</u>	<u>PROCEDURE NAME</u>	<u>PROGRAM(S)</u>	<u>DESCRIPTION</u>
Ø	RPCEMP (DTS only)	EMP100	Generates Employee Master File from employee cards
1A	RPCUØ5 (DTS only)	DA500D DG500D	Edits DTS transactions and updates Labor Transaction History File
1B	RPCUØ1 (ACTD only)	DA500A DG500A	Edits ACTD transactions and updates Labor Transaction History File
2	RPCEXT	RE100B	Produces Vehicle Extract File
3	RPCR40	CLASSM(or D) MLM200(or D)	Generates Maintenance Reports
4	RPCEPL	RE200A(or D) RE300A(or D)	Produces Materials Cost Extract File and Labor Cost Extract File
5	RPCR45	RP080B(or D)	Generates Bus Repair Cost Reports
6	RPCR50	RP080B(or D)	Generates Bus Repair Cost - Labor Only Reports
7	RPCR55	RP080B(or D)	Generates Bus Repair Cost - Parts Only Reports



Figure 5.1-1 shows a sample job setup for RPCJOB as run at ACTD. The job is the all-inclusive job, and includes requests for all the on-demand reports. A detailed description of job submission is provided in the SIMS Repair Cost System Operating Instructions Manual.

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(JOB AND SETUP CARDS)  
//STEP1 EXEC RPCU01  
//STEP2 EXEC RPCEXT  
//RPCEXT.DATECD DD \*  
R1731001 731031  
R2731031  
//STEP3 EXEC RPCR40  
//STEP4 EXEC RPCEPL  
//STEP5 EXEC RPCR45  
//STEP6 EXEC RPCR50  
//STEP7 EXEC RPCR55

FIGURE 5.1-1

ACTD R/C JOB SETUP  
WITH ON-DEMAND REPORTS

TABLE 5.1-2  
PROCEDURE SPECIFICATION

PROCEDURE NAME: RPCEMP

PROGRAM EXECUTED: EMP100 - DTS Employee File Generator

FUNCTIONS: To read employee data cards, and produce a file of  
maintenance employee payroll data

PROCEDURE FLOWCHART: Figure 5.1-2

FILES

<u>FILE NAME</u>	<u>DATA SET NAME</u>	<u>SEC. REF.</u>
<u>INPUT</u>		
DTS Employee Card File	EMPLCD	6.7

OUTPUT

Employee Master File	CN1510.RPC.S.EMPFILE	6.6
----------------------	----------------------	-----

REPORTS

Employee Statistics  
Employee Card Edit List

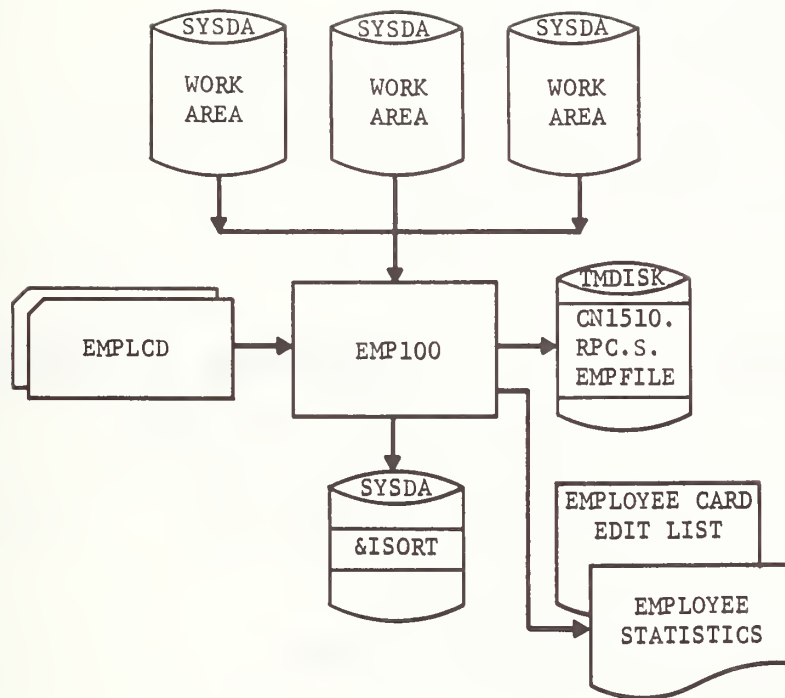


FIGURE 5.1-2  
PROCEDURE RPCEMP

TABLE 5.1-3  
PROCEDURE SPECIFICATION

PROCEDURE NAME: RPCU01 - RPC01

PROGRAM EXECUTED: DA500A - Data Acceptance (ACTD)

FUNCTIONS: To reformat ACTD labor transactions for processing  
by the R/C System

PROCEDURE FLOWCHART: Figure 5.1-3

FILES

<u>FILE NAME</u>	<u>DATA SET NAME</u>	<u>SEC. REF.</u>
<u>INPUT</u>		
ACTD Labor Transaction File	AC.TIME.CARDS	6.4

OUTPUT

Temporary Labor Transaction File	&RPCTRAN	6.12
-------------------------------------	----------	------

REPORTS

Data Acceptance Edit List

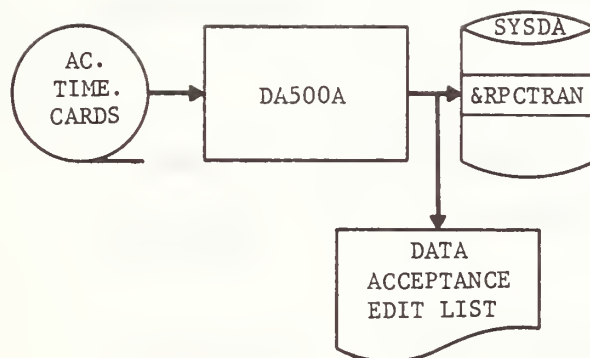


FIGURE 5.1-3  
PROCEDURE RPCU01-RPC01

TABLE 5.1-4

## PROCEDURE SPECIFICATION

PROCEDURE NAME: RPCU01 - RPC03

PROGRAM EXECUTED: DG5COA - Labor Transaction History File  
Edit/Update (ACTD)

FUNCTIONS: To read and edit reformatted input transactions, and  
update the Labor Transaction History File

PROCEDURE FLOWCHART: Figure 5.1-4

FILES

<u>FILE NAME</u>	<u>DATA SET NAME</u>	<u>SEC. REF.</u>
<u>INPUT</u>		
Temporary Labor Transaction File	&ROCTRAB	6.12
Transaction History File	CN1510.RPC.M. TRANHIST(0)	6.1
<u>OUTPUT</u>		
Labor Transaction History File	CN1510.RPC.M. TRANHIST(+1)	6.1

REPORTS

Labor Transaction Edit List



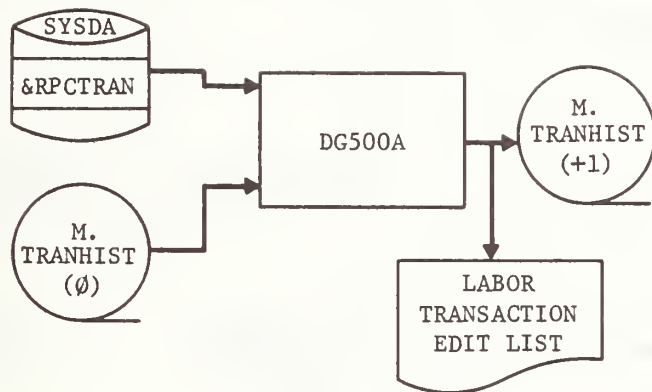


FIGURE 5.1-4  
PROCEDURE RPCU01-RPC03

TABLE 5.1-5  
PROCEDURE SPECIFICATION

PROCEDURE NAME: RPCU05 - RPC05

PROGRAM EXECUTED: DA500D - Data Acceptance (DTS)

FUNCTIONS: To reformat DTS labor transactions for processing  
by the R/C System.

PROCEDURE FLOWCHART: Figure 5.1-5

FILES

<u>FILE NAME</u>	<u>DATA SET NAME</u>	<u>SEC. REF.</u>
<u>INPUT</u>		
DTS Labor Transaction File	DTS.TIME.CARDS	6.5
Employee Master File	CN1510.RPC.S. EMPFILE	6.6

OUTPUT

Temporary Labor Transaction File	&RPCTRAN	6.12
-------------------------------------	----------	------

REPORTS

Data Acceptance Edit List

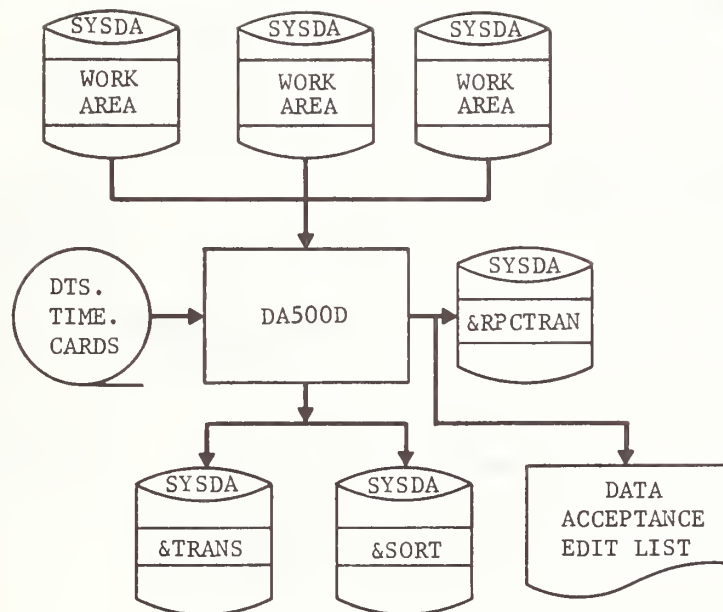


FIGURE 5.1-5  
PROCEDURE RPCU05-RPC05

TABLE 5.1-6

PROCEDURE SPECIFICATION

PROCEDURE NAME: RPCU05 - RPC07

PROGRAM EXECUTED: DG500D - Labor Transaction History File  
Edit/Update (DTS)

FUNCTIONS: To read and edit reformatted input transactions, and  
update the Labor Transaction History File

PROCEDURE FLOWCHART: Figure 5.1-6

FILES

<u>FILE NAME</u>	<u>DATA SET NAME</u>	<u>SEC. REF.</u>
<u>INPUT</u>		
Temporary Labor Transaction File	&RPCTRAN	6.12
Labor Transaction History File	CN1510.RPC.M. TRANHIST(Ø)	6.1
<u>OUTPUT</u>		
Labor Transaction History File	CN1510.RPC.M.	6.1

REPORTS

Labor Transaction Edit List

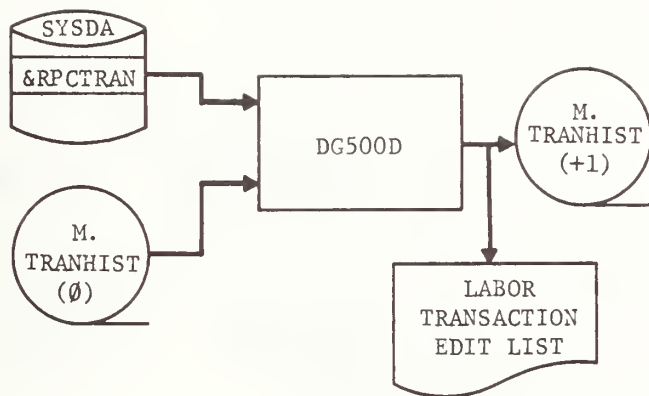


FIGURE 5.1-6  
PROCEDURE RPCU05-RPC07

TABLE 5.1-7  
PROCEDURE SPECIFICATION

PROCEDURE NAME: RPCEXT

PROGRAM EXECUTED: RE100 - Vehicle File Extract

FUNCTIONS: To read the Vehicle Master File and produce  
one extract record per vehicle containing  
fleet, division, and mileage data

PROCEDURE FLOWCHART: Figure 5.1-7

FILES

<u>FILE NAME</u>	<u>DATA SET NAME</u>	<u>SEC. REF.</u>
<u>INPUT</u>		
Vehicle Master File	CN1510.SRV.M. VEHICLE(0)	6.3
Date Card File	DATECD	6.11
<u>OUTPUT</u>		
Report Request File	CN1510.RPC.S. DATEFILE	6.10
Vehicle Extract File	&BUSLST	6.16

REPORTS

None

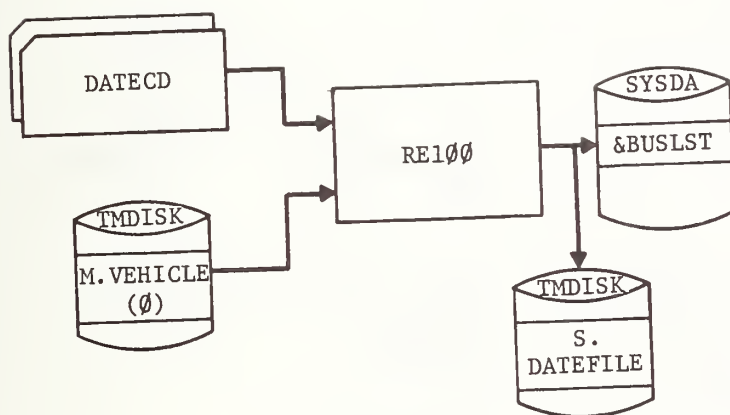


FIGURE 5.1-7  
PROCEDURE RPCEXT

TABLE 5.1-8

PROCEDURE SPECIFICATION

PROCEDURE NAME: RPCR40 -- RPC40

PROGRAM EXECUTED: CLASSM - Maintenance Report Extract

FUNCTIONS: To read the Labor Transaction History File, and  
extract records that apply to a user specified  
report period

PROCEDURE FLOWCHART: Figure 5.1-8

FILES:

<u>FILE NAME</u>	<u>DATA SET NAME</u>	<u>SEC. REF.</u>
<u>INPUT</u>		
Labor Transaction History File	CN1510.RPC.M. TRANHIST( )	6.1
Maintenance Report Classifi- cation File	MCLASS	6.9
Report Request File	CN1510.RPC.S. DATEFILE	6.10

OUTPUT

Labor Hours Extract File	&LABOR	6.13
--------------------------	--------	------

REPORTS

List of Accounting Classification Exceptions



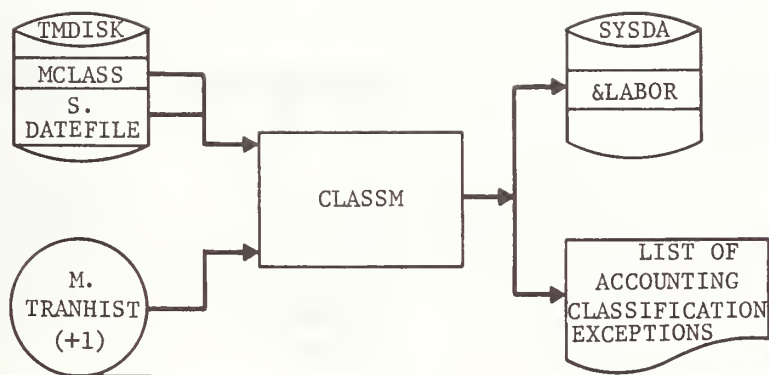


FIGURE 5.1-8  
PROCEDURE RPCR40-RPC40

TABLE 5.1-9  
PROCEDURE SPECIFICATION

PROCEDURE NAME: RPCR40 - RPC42

PROGRAM EXECUTED: MLM200 - Maintenance Report Generator

FUNCTIONS: To read a file of labor transactions, and produce  
reports of maintenance work performed

PROCEDURE FLOWCHART: Figure 5.1-9

FILES

<u>FILE NAME</u>	<u>DATA SET NAME</u>	<u>SEC. REF.</u>
<u>INPUT</u>		
Maintenance Report Generator Control File	MCNTRL	6.8
Report Request File	CN1510.RPC.S. DATEFILE	6.10
Labor Hours Extract File	&LABOR	6.13

OUTPUT

None

REPORTS

Hourly Maintenance Labor Utilization Report  
Maintenance Labor Cost Report

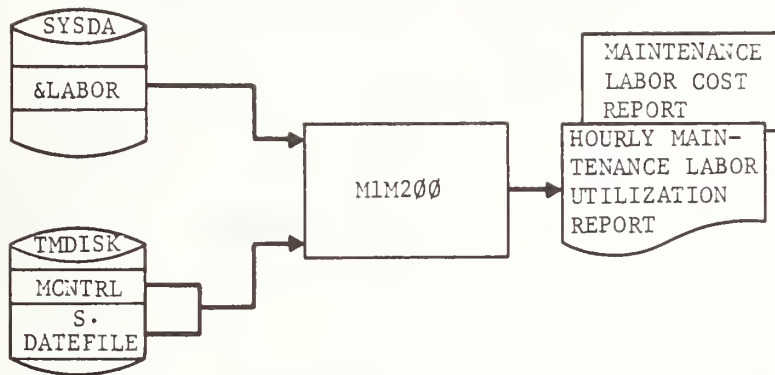


FIGURE 5.1-9  
PROCEDURE RPCR40-RPC42

TABLE 5.1-10  
PROCEDURE SPECIFICATION

PROCEDURE NAME: RPCEPL - RPCE01

PROGRAM EXECUTED: RE200 - Materials Cost File Extract

FUNCTIONS: To read the Inventory Transaction History File,  
and extract records of materials issued for  
vehicle maintenance

PROGRAM FLOWCHART: Figure 5.1-10

FILES

<u>FILE NAME</u>	<u>DATA SET NAME</u>	<u>SEC. REF.</u>
<u>INPUT</u>		
Inventory Transaction History File	CN1744.INV.M. TRANTAPE(0)	6.2
Vehicle Extract File	&BUSLST	6.16

OUTPUT

Materials Cost Extract File	&PTCOST	6.15
-----------------------------	---------	------

REPORTS

None

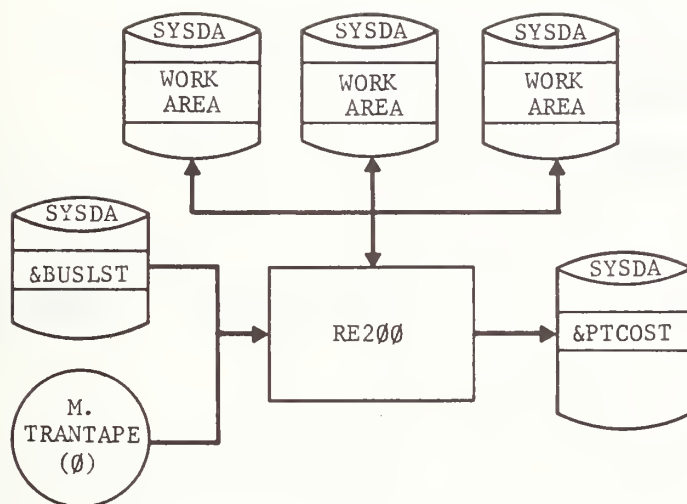


FIGURE 5.1-10  
PROCEDURE RPCEPL-RPCE01

TABLE 5.1-11  
PROCEDURE SPECIFICATION

PROCEDURE NAME: RPCEPL - RPCE03

PROGRAM EXECUTED: RE300 - Labor Cost File Extract

FUNCTIONS: To read the Labor Transaction History File, and  
extract records of employee costs for vehicle  
maintenance

PROCEDURE FLOWCHART: Figure 5.1-11

FILES

<u>FILE NAME</u>	<u>DATA SET NAME</u>	<u>SEC. REF.</u>
<u>INPUT</u>		
Labor Transaction History File	CN1510.RPC.M. TRANHIST( )	6.1
Vehicle Extract File	&BUSLST	6.16

OUTPUT

Labor Cost Extract File	&LBCOST	6.14
-------------------------	---------	------

REPORTS

None

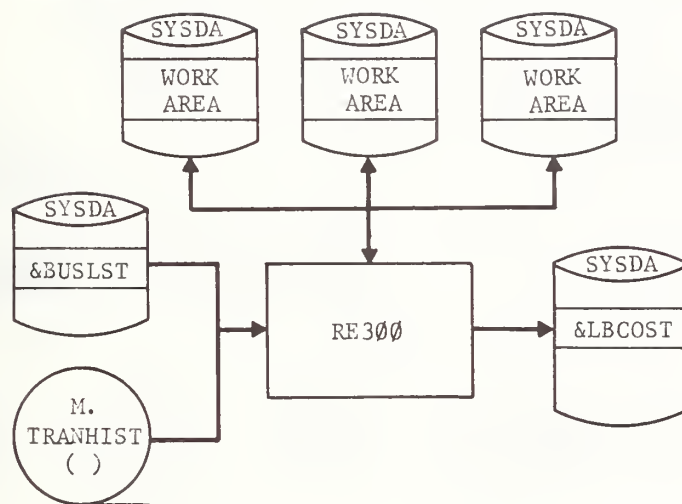


FIGURE 5.1-11  
PROCEDURE RPCEPL-RPCE03

TABLE 5.1-12  
PROCEDURE SPECIFICATION

PROCEDURE NAME: RPCR45

PROGRAM EXECUTED: RP080 - Bus Repair Cost Report Generator

FUNCTIONS: To produce a report of material labor costs  
of vehicle maintenance by vehicle number

PROCEDURE FLOWCHART: Figure 5.1-12

FILES

<u>FILE NAME</u>	<u>DATA SET NAME</u>	<u>SEC. REF.</u>
<u>INPUT</u>		
Labor Cost Extract File	&LBCOST	6.14
Materials Cost Extract File	&PTCOST	6.15
Vehicle Extract File	&BUSLST	6.16

OUTPUT

None

REPORTS

Bus Repair Cost By Subassembly  
Subassembly Repair Cost - Division Summary



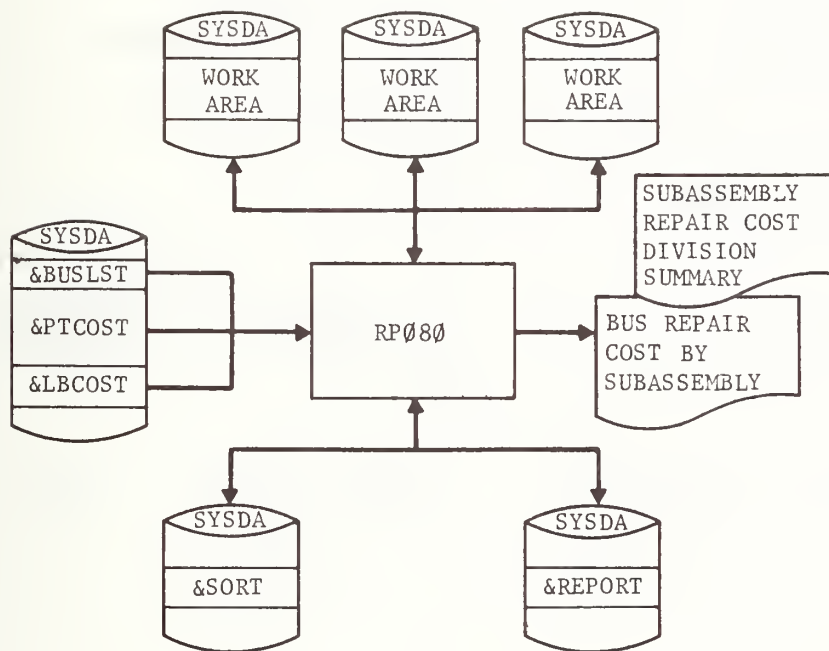


FIGURE 5.1-12  
PROCEDURE RPCR45

TABLE 5.1-13  
PROCEDURE SPECIFICATION

PROCEDURE NAME: RPCR50

PROGRAM EXECUTED: RP080 - Bus Repair Cost Report Generator

FUNCTIONS: To produce a report of labor cost of vehicle  
maintenance by vehicle number

PROCEDURE FLOWCHART: Figure 5.1-13

FILES

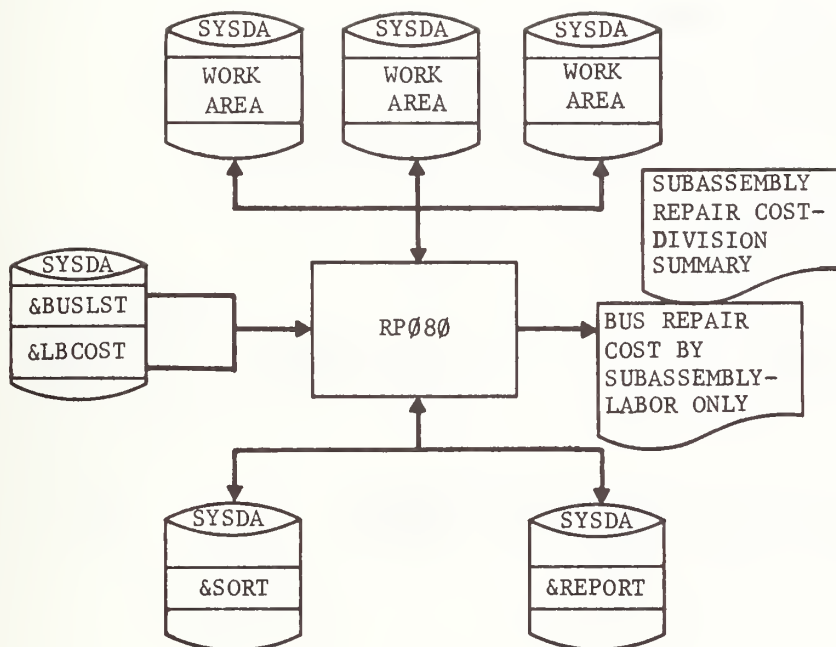
<u>FILE NAME</u>	<u>DATA SET NAME</u>	<u>SEC. REF.</u>
<u>INPUT</u>		
Labor Cost Extract File	&LBCOST	6.14
Vehicle Extract File	&BUSLST	6.16

OUTPUT

None

REPORTS

Bus Repair Cost By Subassembly - Labor Only  
Subassembly Repair Cost -- Division Summary



**FIGURE 5.1-13**  
**PROCEDURE RPCR50**

TABLE 5.1-14

PROCEDURE SPECIFICATION

PROCEDURE NAME: RPCR55

PROGRAM EXECUTED: RPO80 - Bus Repair Cost Report Generator

FUNCTIONS: To generate a report of materials cost of  
vehicle maintenance by vehicle number

PROCEDURE FLOWCHART: Figure 5.1-14

FILES

<u>FILE NAME</u>	<u>DATA SET NAME</u>	<u>SEC. REF.</u>
<u>INPUT</u>		
Materials Cost Extract File	&PTCOST	6.15
Vehicle Extract File	&BUSLST	6.16

OUTPUT

None

REPORTS

Bus Repair Cost By Subassembly - Parts Only  
Subassembly Repair Cost - Division Summary

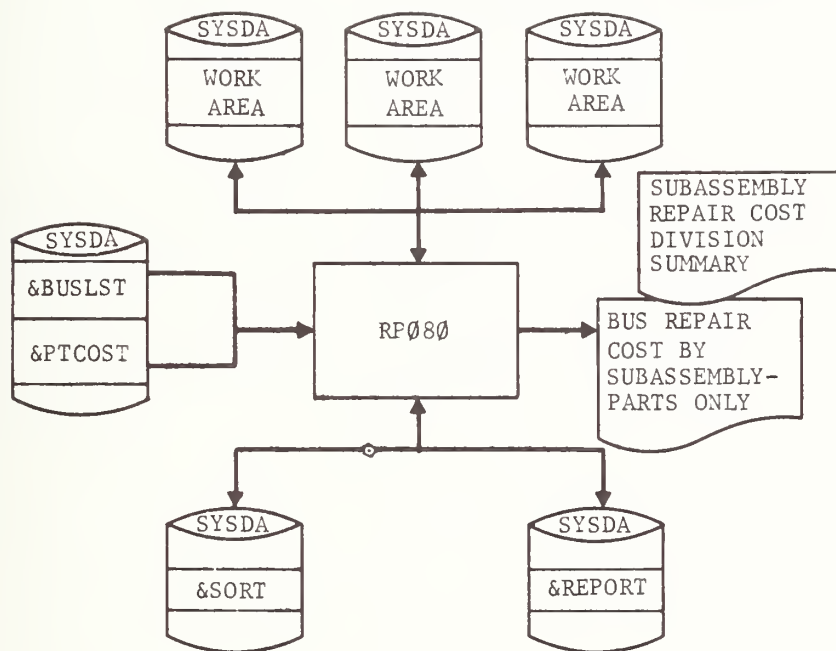


FIGURE 5.1-14  
PROCEDURE RPCR55

## 5.2 ACTD Cataloged Procedures

This section contains listings of the R/C System procedures as currently installed at ACTD. Table 5.2-1 lists the procedure names and corresponding figure numbers for the JCL listings.

TABLE 5.2-1  
ACTD CATALOGUED PROCEDURES

<u>PROCEDURE NAME</u>	<u>JCL LISTING FIGURE</u>
RPCUØ1	5.2-1
RPCEXT	5.2-2
RPCR40	5.2-3
RPCEPL	5.2-4
RPCR45	5.2-5
RPCR50	5.2-6
RPCR55	5.2-7

```

/** CTL CN=1510,JDATE=73239
//RPCU01 PROC ACNT='CN1510.SRV',ACNT2='CN1510.RPC',GEN='-4'
//RPC01 EXEC PGM=DA500A,COND=(7,LE),REGION=60K,
// PAFM=' AC TRANSIT '
//STEPL1 DD DSN=&ACNT..LOAD,DISP=SHR,VOL=(PRIVATE,RETAIN)
//SYSUDUMP DD SYSOUT=A
//PRINT01 DD SYSOUT=A,DCB=(RECFM=FB,LRECL=133,BLKSIZE=1330)
//IMSTP03 DD DSN=AC.TIME.CARDS,LABEL=(,BLP),UNIT=(2400,,DEFER),
// DISP=OLD,DCB=(RECFM=FB,LRECL=80,BLKSIZE=2000),VOL=SER=DATA01
//CMSTP04 DD DSN=&RPCTRAN,DISP=(NEW,PASS),UNIT=2314,
// DCE=(RECFM=FB,LRECL=120,BLKSIZE=7200),SPACE=(CYL,(9,1),RLSE)
//RPC03 EXEC PGM=DA500A,COND=(7,LE),REGION=180K,
// PAFM=' AC TRANSIT '
//STEPL1 DD DSN=&ACNT..LOAD,DISP=SHR,VOL=(PRIVATE,RETAIN)
//VOLREF DD DSN=&ACNT2..M.TRANHIST(&GEN.),DISP=(OLD,PASS)
//SYSUDUMP DD SYSOUT=A
//PRINT01 DD SYSOUT=A,DCB=(RECFM=FB,LRECL=133,BLKSIZE=1330)
//ITRAN01 DD DSN=&ACNT2..M.TRANHIST(0),DISP=OLD,UNIT=(2400,,DEFER)
//ITRAN05 DD DSN=&RPCTRAN,DISP=(OLD,PASS)
//OTRAN06 DD DSN=&ACNT2..M.TRANHIST(+1),DISP=(NEW,CATLG,DELETE),
// VOL=REF=*.VOLREF,
// LABEL=(,SL),UNIT=(2400,,DEFER),
// DCB=(RECFM=FB,LRECL=120,BLKSIZE=31200)

```

FIGURE 5.2-1  
ACTD PROCEDURE RPCU01



```

/* CTL CN=1510,JDATE=73239
//RPCEXT PROC ACNT='CN1510.SRV',BCNT='CN1510.RPC'
//RPCEXT EXEC PGM=RE101B,REGION=60K,COND=(7,LE)
//STEPLIB DD DSN=8ACNT..LOAD,DISP=SHR,VOL=PRIVATE
//SYSOUT DD SYSOUT=A
//SYSUDUMP DD SYSOUT=A
//IMSTP01 DD DSN=8ACNT..4.VEHICLE(0),DISP=OLD,VOL=PRIVATE
//ICAPD03 DD DDNAME=DATECD
//PMSTP02 DD DSN=8BUSLST,DISP=(NEW,PASS),
// UNIT=2314,SPACE=(TPK,(100,20),RLSE),
// DCB=(LRECL=18,BLKSIZE=7272,RECFM=FB)
//DPRNT04 DD SYSOUT=A,DCB=(LRECL=133,BLKSIZE=133,RECFM=F)
//PDAT06 DD DSN=8BCNT..S.DATFILE,DISP=OLD,VOL=PRIVATE,DCB=BUFNO=1

```

FIGURE 5.2.2  
ACTD PROCEDURE RPCEXT

```

//* CTL CN=1510,JDATE=73239
//PPCR40 PROC ACNT='CN1510.SRV',DSK='TMDISK',ACNT2='CN1510.RPC',
// VEPS='+1'
//RPC40 EXEC PGM=CLASSM,REGION=150K,COND=(7,LE)
//STEPL1 DD DSN=&ACNT..LOAD,DISP=OLD,VOL=PRIVATE
//SYSUDUMP DD SYSOUT=A
//CNTRL01 DD DSN=MCLASS,DISP=OLD,UNIT=2314,VOL=(PRIVATE,SER=&DSK.)
//PRINT02 DD SYSOUT=A,DCB=(RECFM=FB,LRECL=133,BLKSIZE=1330)
//ITRAN03 DD DSN=&ACNT2..M.TRANHIST(&VERS.),DISP=OLD,UNIT=2400
//OTRAN04 DD DSN=&LABOR,DISP=(NEW,PASS),UNIT=2314,
// SPACE=(CYL,(6,1)),DCB=(RECFM=FB,LRECL=80,BLKSIZE=7280)
//CNTRL05 DD DSN=&ACNT2..S.DATEFILE,DISP=OLD,VOL=PRIVATE
//SYSOUT DD SYSOUT=A
//PPC42 EXEC PGM=M1M200,REGION=100K,COND=(7,LE)
//STEPL1 DD DSN=&ACNT..LOAD,DISP=OLD,VOL=PRIVATE
//SYSUDUMP DD SYSOUT=A
//ITRAN01 DD DSN=&LABOR,DISP=(OLD,DELETE)
//PRINT02 DD SYSOUT=A,DCB=(RECFM=FB,LRECL=133,BLKSIZE=1330)
//CNTRL03 DD DSN=MCNTRL,DISP=OLD,UNIT=2314,VOL=(PRIVATE,SER=&DSK.)
//IMSTR04 DD DUMMY,DCB=(RECFM=F,LRECL=5000,BLKSIZE=5000)
//IMSTR05 DD DUMMY,DCB=(RECFM=F,BLKSIZE=30)
//DATE06 DD DSN=&ACNT2..S.DATEFILE,DISP=OLD,VOL=PRIVATE

```

FIGURE 5.2-3  
ACTD PROCEDURE RPCR40

```

/* * CTL CN=1510,JDATE=73239
//RPCEPL  PROC ACNT='CN1510.SRV',BCNT='CN1744.INV',
// CNT='CN1510.PPC',VERS='+1'
//RPCE01  EXEC PGM=RE200A,REGION=165K,COND=(7,LE)
//STEPLIB DD DSN=&ACNT..LOAD,DISP=SHR,VOL=PRIVATE
//WK01    DD DSN=&ISORT,UNIT=2314,DISP=(NEW,DELETE),
//         SPACE=(CYL,(6,1),,CONTIG),
//         DCB=(RECFM=FB,LRECL=18,BLKSIZE=7272)
//WK02    DD DSN=&OSORT,UNIT=2314,DISP=(NEW,DELETE),
//         SPACE=(CYL,(6,1),,CONTIG),
//         DCB=(RECFM=FB,LRECL=18,BLKSIZE=7272)
//SORTLIB DD DSN=SYS1.SORTLIB,DISP=SHR
//SYSOUT  DD SYSOUT=A
//SYSUDUMP DD SYSOUT=A
//SORTWK01 DD UNIT=SYSDA,SPACE=(CYL,(6,1),,CONTIG)
//SORTWK02 DD UNIT=SYSDA,SPACE=(CYL,(6,1),,CONTIG)
//SORTWK03 DD UNIT=SYSDA,SPACE=(CYL,(6,1),,CONTIG)
//QPRNT00 DD DUMMY,DCB=(RECFM=F,BLKSIZE=133)
//QPRNT01 DD DUMMY,DCB=(RECFM=F,BLKSIZE=133)
//QPRNT02 DD DUMMY,DCB=(RECFM=F,BLKSIZE=133)
//PMSTRO1 DD DSN=&BUSLST,DISP=(OLD,PASS)
//ITRAN03 DD DSN=&BCNT..M.TRANTAPE(0),DISP=OLD,UNIT=2400
//PTRAN04 DD DSN=&PTCOST,DISP=(NEW,PASS),UNIT=2314,
//         DCB=(RECFM=FB,LRECL=18,BLKSIZE=7272),
//         SPACE=(TRK,(100,20),RLSE)
//RPCE03  EXEC PGM=RE300A,REGION=165K,COND=(7,LE)
//STEPLIB DD DSN=&ACNT..LOAD,DISP=SHR,VOL=PRIVATE
//WK01    DD DSN=&ISORT,UNIT=2314,DISP=(NEW,DELETE),
//         SPACE=(CYL,(6,1),,CONTIG),
//         DCB=(RECFM=FB,LRECL=18,BLKSIZE=7272)
//WK02    DD DSN=&OSORT,UNIT=2314,DISP=(NEW,DELETE),
//         SPACE=(CYL,(6,1),,CONTIG),
//         DCB=(RECFM=FB,LRECL=18,BLKSIZE=7272)
//SORTLIB DD DSN=SYS1.SORTLIB,DISP=SHR
//SYSOUT  DD SYSOUT=A
//SYSUDUMP DD SYSOUT=A
//SORTWK01 DD UNIT=SYSDA,SPACE=(CYL,(6,1),,CONTIG)
//SORTWK02 DD UNIT=SYSDA,SPACE=(CYL,(6,1),,CONTIG)
//SORTWK03 DD UNIT=SYSDA,SPACE=(CYL,(6,1),,CONTIG)
//QPRNT00 DD DUMMY,DCB=(RECFM=F,BLKSIZE=133)
//QPRNT01 DD DUMMY,DCB=(RECFM=F,BLKSIZE=133)
//QPRNT02 DD DUMMY,DCB=(RECFM=F,BLKSIZE=133)
//PMSTRO1 DD DSN=&BUSLST,DISP=(OLD,PASS)
//ILABR05 DD DSN=&CCNT..M.TRANHIST(&VERS.),DISP=OLD,UNIT=2400
//PLABR06 DD DSN=&LRCOST,DISP=(NEW,PASS),UNIT=2314,
//         DCB=(RECFM=FB,LRECL=18,BLKSIZE=7272),
//         SPACE=(TRK,(100,20),RLSE)

```

FIGURE 5.2-4  
ACTD PROCEDURE RPCEPL

```

/* * CTL CN=1510,JDATE=73239
//RPCR45 PROC ACNT='CN1510.SRV'
//RPCR45 EXEC PGM=RP080B,REGION=150K,COND=(7,LE),
//      PARM='          AC TRANSIT          '
//STEPLIB DD DSN=ACNT..LOAD,DISP=SHR,VOL=PRIVATE
//SORTLIB DD DSN=SYS1.SORTLIB,DISP=SHR
//SORTWK01 DD UNIT=SYSDA,SPACE=(CYL,(3,1),,CONTIG)
//SORTWK02 DD UNIT=SYSDA,SPACE=(CYL,(3,1),,CONTIG)
//SORTWK03 DD UNIT=SYSDA,SPACE=(CYL,(3,1),,CONTIG)
//SYSOUT DD DUMMY
//WK01 DD DSN=ESORT,UNIT=2314,DISP=(NEW,DELETE),
//      SPACE=(CYL,(6,1),,CONTIG),DCB=(RECFM=FB,LRECL=97,BLKSIZE=7275)
//WK02 DD DSN=EREPORT,UNIT=2314,DISP=(NEW,DELETE),
//      SPACE=(CYL,(6,1),,CONTIG),DCB=(RECFM=FB,LRECL=97,BLKSIZE=7275)
//PMSTR02 DD DSN=EBUSLST,DISP=(OLD,PASS)
//PLABR06 DD DSN=ELBCOST,DISP=(OLD,PASS)
//PTRAN04 DD DSN=EPTCOST,DISP=(OLD,PASS)
//OPRNT01 DD SYSOUT=A,DCB=(RECFM=FB,LRECL=133,BLKSIZE=7182)
//SYSUDUMP DD SYSOUT=A

```

FIGURE 5.2-5  
ACTD PROCEDURE RPCR45

```

//* CTL CN=1510,JDATE=73239
//RPCR50 PROC ACNT='CN1510.SRV'
//RPCR50 EXEC PGM=RP080B,REGIO4=150K,COND=(7,LE),
//      PARM='      AC TRANSIT - LABOR ONLY      '
//STEPL1B DD DSN=&ACNT..LOAD,DISP=SHR,VOL=PRIVATE
//SORTL1B DD DSN=SYS1.SORTL1B,DISP=SHR
//SORTWK01 DD UNIT=SYSDA,SPACE=(CYL,(3,1),,CONTIG)
//SORTWK02 DD UNIT=SYSDA,SPACE=(CYL,(3,1),,CONTIG)
//SORTWK03 DD UNIT=SYSDA,SPACE=(CYL,(3,1),,CONTIG)
//SYSOUT DD DUMMY
//WK01 DD DSN=&SORT,UNIT=2314,DISP=(NEW,DELETE),
//      SPACE=(CYL,(6,1),,CONTIG),DCB=(RECFM=FB,LRECL=97,BLKSIZE=7275)
//WK02 DD DSN=&REPORT,UNIT=2314,DISP=(NEW,DELETE),
//      SPACE=(CYL,(6,1),,CONTIG),DCB=(RECFM=FB,LRECL=97,BLKSIZE=7275)
//PMSTRO2 DD DSN=&BUSLST,DISP=(OLD,PASS)
//PLABR06 DD DSN=&LBCOST,DISP=(OLD,PASS)
//PTRANO4 DD DUMMY,DCB=(RECFM=F,BLKSIZE=19)
//OPRNT01 DD SYSOUT=A,DCB=(RECFM=FB,LRECL=133,BLKSIZE=7182)
//SYSUDUMP DD SYSOUT=A

```

FIGURE 5.2-6  
ACTD PROCEDURE RPCR50

```

/* CTL CN=1510,JDATE=73239
//RPCP55 PROC ACNT='CN1510.SRV'
//RPCR55 EXEC PGM=RP080B,REGION=150K,COND=(7,LE),
//      PARM=' AC TRANSIT - PARTS ONLY '
//STEPLIB DD DSN=&ACNT..LOAD,DISP=SHR,VOL=PRIVATE
//SORTWK01 DD UNIT=SYSDA,SPACE=(CYL,(3,1),,CONTIG)
//SORTWK02 DD UNIT=SYSDA,SPACE=(CYL,(3,1),,CONTIG)
//SORTWK03 DD UNIT=SYSDA,SPACE=(CYL,(3,1),,CONTIG)
//SORTLIB DD DSN=SYS1.SORTLIB,DISP=SHR
//SYSOUT DD DUMMY
//WK01 DD DSN=&SORT,UNIT=2314,DISP=(NEW,DELETE),
//      SPACE=(CYL,(6,1),,CONTIG),DCB=(RECFM=FB,LRECL=97,BLKSIZE=7275)
//WK02 DD DSN=&REPORT,UNIT=2314,DISP=(NEW,DELETE),
//      SPACE=(CYL,(6,1),,CONTIG),DCB=(RECFM=FB,LRECL=97,BLKSIZE=7275)
//PMSTRO2 DD DSN=&BUSLST,DISP=(OLD,PASS)
//PLABR06 DD DUMMY,DCB=(RECFM=F,BLKSIZE=18)
//PTRANO4 DD DSN=&PTCOST,DISP=(OLD,PASS)
//QPRNT01 DD SYSOUT=A,DCB=(RECFM=FB,LRECL=133,BLKSIZE=7182)
//SYSUDUMP DD SYSOUT=A

```

FIGURE 5.2-7  
ACTD PROCEDURE RPCR55

### 5.3 DTS Cataloged Procedures

This section contains listings of the R/C System procedures as currently installed at DTS. Table 5.3-1 lists the procedure names and corresponding figure numbers for the JCL listings.

TABLE 5.3-1  
DTS CATALOGED PROCEDURES

<u>PROCEDURE NAME</u>	<u>JCL LISTING FIGURE</u>
RPCEMP	5.3-1
RPCU05	5.3-2
RPCEXT	5.3-3
RPCR40	5.3-4
RPCEPL	5.3-5
RPCR45	5.3-6
RPCR50	5.3-7
RPCR55	5.3-8



```

/* * CTL=DALLAS TRANSIT,JDATF=73305
//RDCMP  PPRC ACNT='CN1510.SRV',BCNT='CN1510.RPC'
//RDCMP  EXEC PGM=EMP100,CQN)=(7,LE),REGION=120K,
//      PARM='          DALLAS TRANSIT          '
//STEPL1 DD DSN=&ACNT..LOAD,DISP=OLD,VOL=PRIVATE
//      DD DSN=PPSORT,DISP=SHR
//SORTWK01 DD UNIT=SYSDA,SPACE=(CYL,(1,1),,CONTIG)
//SORTWK02 DD UNIT=SYSDA,SPACE=(CYL,(1,1),,CONTIG)
//SORTWK03 DD UNIT=SYSDA,SPACE=(CYL,(1,1),,CONTIG)
//SORTLIB DD DSN=PSRTLIB,DISP=SHR
//SYSOUT DD DUMMY
//WK01 DD DSN=&ISORT,UNIT=3330,DISP=(NEW,DELETE),
//      DCB=(RECFM=FB,LRECL=18,BLKSIZE=6480),SPACE=(CYL,(1,1),,CONTIG)
//PRINT01 DD SYSOUT=A,DCB=(RECFM=FB,LRECL=133,BLKSIZE=1330)
//PRINT02 DD SYSOUT=A,DCB=(RECFM=FB,LRECL=133,BLKSIZE=1330)
//SYSUDUMP DD SYSOUT=A
//DISK01 DD DSN=&BCNT..S.EMPFILE,DISP=OLD,VOL=PRIVATE
//INPUT01 DD DDNAME=FMPLCD

```

FIGURE 5.3-1  
DTS PROCEDURE RPCEMP

```

/* CTL=DALLAS TRANSIT, JDATE=73305
//RPCU05 PROC ACNT='CN1511.SRV',ACNT2='CN1510.RPC'
//RPC05 EXEC PGM=DASJ0D,COND=(7,LF),REGION=120K,
// PARM=' DALLAS TRANSIT '
//STEPLIB DD DSN=&ACNT..LJAD,DISP=SHR,VOL=(PRIVATE,RETAIN)
// DD DSN=PPSORT,DISP=SHR
//SYSOUT DD SYSOUT=A
//SYSUDUMP DD SYSOUT=A
//SORTLIB DD DSN=PSRTLIB,DISP=SHR
//SORTWK01 DD UNIT=SYSDA,SPACE=(CYL,(6,1)),CONTIG)
//SORTWK02 DD UNIT=SYSDA,SPACE=(CYL,(6,1)),CONTIG)
//SORTWK03 DD UNIT=SYSDA,SPACE=(CYL,(6,1)),CONTIG)
//PRINT01 DD SYSOUT=A,DCB=(RECFM=FB,LRECL=133,BLKSIZE=133))
//IMSTR01 DD DSN=&TRANS,DISP=(NEW,DELETE),
// UNIT=3330,SPACE=(CYL,(6,1)),DCB=(RECFM=FB,LRECL=80,BLKSIZE=6480)
//IMSTR02 DD DSN=&ACNT2..5.EMPFILE,DISP=OLD,VOL=PRIVATE
//IMSTR03 DD DSN=DTS.TIME.CARDS,LABEL=(,BLP),UNIT=(2400,,DEFER),
// DISP=(NEW,KEEP,KEEP),DCB=(RECFM=F,LRECL=80,BLKSIZE=8),
// TRTCH=T,DFN=2,BUEN)=4),VOL=SEP=PCDATA
//OTRAN06 DD DSN=&SORT,DISP=(NEW,DELETE),
// UNIT=3330,SPACE=(CYL,(6,1)),DCB=(RECFM=FB,LRECL=80,BLKSIZE=6480)
//OMSTR04 DD DSN=&RPCTRN,DISP=(NEW,PASS),UNIT=3330,
// DCB=(RECFM=FB,LRECL=120,BLKSIZE=6480),SPACE=(CYL,(6,1),RLSE)
//RPC07 EXEC PGM=DG5J0D,COND=(7,LF),REGION=146K,
// PARM=' DALLAS TRANSIT '
//STEPLIB DD DSN=&ACNT..LJAD,DISP=SHR,VOL=(PRIVATE,RETAIN)
//SYSUDUMP DD SYSOUT=A
//PRINT01 DD SYSOUT=A,DCB=(RECFM=FB,LRECL=133,BLKSIZE=1330)
//ITRAN01 DD DSN=&ACNT2..4.TRANHIST(0),DISP=OLD,UNIT=(2400,,DEFER)
//ITRAN05 DD DSN=&RPCTRN,DISP=(OLD,PASS)
//OTRAN06 DD DSN=&ACNT2..4.TRANHIST(+1),DISP=(NEW,CATLG,DELETE),
// LABEL=(,SL),UNIT=(2400,,DEFER),
// DCB=(RECFM=FB,LRECL=120,BLKSIZE=18000)

```

FIGURE 5.3-2  
DTS PROCEDURE RPCU05

```

//* CTL=DALLAS TRANSIT,JDATE=73305
//RPOEXT PROCL ACNT='CN1510.SRV',BCNT='CN1510.RPC'
//RPOEXT EXEC PGM=RF100B,REGION=60K,COND=(7,LE)
//STEPLIB DD DSN=&ACNT..LJAO,DISP=SHR,VOL=PRIVATE
//SYSOUT DD SYSOUT=A
//SYSUDUMP DD SYSOUT=A
//PMSTR01 DD DSN=&ACNT..M.VEHICLE(0),DISP=OLD,VOL=PRIVATE
//PMSTR02 DD DSN=&BUSLST,DISP=(NEW,PASS),
// UNIT=3330,SPACE=(TRK,(10),20),RLSE),
// DCB=(LRECL=18,BLKSIZE=5498,RECFM=FB)
//PPRNT04 DD SYSOUT=A,DCB=(LRECL=133,BLKSIZE=133,RECFM=F)
//PDATED04 DD DSN=&BCNT..S.DATEFILE,DISP=OLD,VOL=PRIVATE,DCB=BUFNO=1
//ICARD03 DD DDNAME=DATECD

```

FIGURE 5.3-3  
DTS PROCEDURE RPOEXT

```

/* CTL=DALLAS TRANSIT,JDATE=73305
//RPCR40 PROC ACNT='CN1510.SRV',DSK='TMDISK',ACNT2='CN1510.RPC',
// VRS='0'
//RPC40 EXEC PGM=CLASSMD,REGION=146K,COND=(7,LE)
//STEP1B DD DSN=&ACNT..L1AD,DISP=OLD,VOL=PRIVATE
//SYSUDUMP DD SYSOUT=A
//CNTRL01 DD DSN=MCLASS,DISP=OLD,UNIT=2314,VOL=(PRIVATE,SER=&DSK.)
//PRINT02 DD SYSOUT=A,DCB=(RECFM=FB,LRECL=133,BLKSIZE=1330)
//ITRAN03 DD DSN=&ACNT2..4.TRAVHIST(&VRS.),DISP=OLD,UNIT=2400,
// DCB=BUFNO=1
//ITRAN04 DD DSN=&LABOR,DISP=(NEW,PASS),UNIT=3330,
// SPACE=(CYL,(6,1)),DCB=(RECFM=FB,LRECL=80,BLKSIZE=6480)
//CNTRL05 DD DSN=&ACNT2..5.DATEFILE,DISP=OLD,VOL=PRIVATE,DCB=BUFNO=1
//SYSOUT DD SYSOUT=A
//RPC42 EXEC PGM=4142000,REGION=100K,COND=(5,LE)
//STEP1B DD DSN=&ACNT..L1AD,DISP=OLD,VOL=PRIVATE
//SYSUDUMP DD SYSOUT=A
//ITRAN01 DD DSN=&LABOR,DISP=(OLD,DELETE)
//PRINT02 DD SYSOUT=A,DCB=(RECFM=FB,LRECL=133,BLKSIZE=1330)
//CNTRL03 DD DSN=MCNTRL,DISP=OLD,UNIT=2314,VOL=(PRIVATE,SER=&DSK.)
//IMSTR04 DD DUMMY,DCB=(RECFM=F,LRECL=5000,BLKSIZE=5000)
//IMSTR05 DD DUMMY,DCB=(RECFM=F,BLKSIZE=30)
//DATE05 DD DSN=&ACNT2..5.DATEFILE,DISP=OLD,VOL=PRIVATE
//SYSOUT DD SYSOUT=A

```

FIGURE 5.3-4  
DTS PROCEDURE RPCR40

```

//* CTL=DALLAS TRANSIT, JDATE=73305
//RPCEPL PRDC ACNT='CN1510.SRV', BCNT='CN1744.INV',
// ACNT='CN1510.RPC', VERS=')'
//RPCE01 EXFC PGM=RE2000, REGION=146K, COND=(7, LE)
//STEP1R DD DSN=ACNT..LOAD, DISP=SHR, VOL=PRIVATE
// DD DSN=PPSORT, DISP=SHR
//SYSOUT DD SYSOUT=A
//SYSUDUMP DD SYSOUT=A
//SORTWK01 DD UNIT=SYSDA, SPACE=(CYL,(6,1),,CONTIG)
//SORTWK02 DD UNIT=SYSDA, SPACE=(CYL,(6,1),,CONTIG)
//SORTWK03 DD UNIT=SYSDA, SPACE=(CYL,(6,1),,CONTIG)
//SORTLIB DD DSN=PSRTLIB, DISP=SHR
//WK01 DD DSN=ISORT, UNIT=3330, DISP=(NEW,DELETE),
// SPACE=(CYL,(5,1),,CONTIG),
// DCB=(RECFM=F3, LRECL=18, BLKSIZE=6498)
//WK02 DD DSN=DSORT, UNIT=3330, DISP=(NEW,DELETE),
// SPACE=(CYL,(5,1),,CONTIG),
// DCB=(RECFM=F3, LRECL=18, BLKSIZE=6498)
//PMSTR01 DD DSN=EBUSLST, DISP=(OLD,PASS)
//ITRAN03 DD DSN=BCNT..M.TRAITAPE(0), DISP=OLD, UNIT=2400, DCB=BUFNO=1
//PTRAN04 DD DSN=PTCOST, DISP=(NEW,PASS), UNIT=3330,
// DCB=(RECFM=F4, LRECL=18, BLKSIZE=6498),
// SPACE=(TRK,(100,20),RLSE)
//RPCE03 EXFC PGM=RE3000, REGION=146K, COND=(7, LE)
//STEP1R DD DSN=ACNT..LOAD, DISP=SHR, VOL=PRIVATE
// DD DSN=PPSORT, DISP=SHR
//SYSOUT DD SYSOUT=A
//SYSUDUMP DD SYSOUT=A
//SORTLIB DD DSN=PSRTLIB, DISP=SHR
//SORTWK01 DD UNIT=SYSDA, SPACE=(CYL,(6,1),,CONTIG)
//SORTWK02 DD UNIT=SYSDA, SPACE=(CYL,(6,1),,CONTIG)
//SORTWK03 DD UNIT=SYSDA, SPACE=(CYL,(6,1),,CONTIG)
//WK01 DD DSN=ISORT, UNIT=3330, DISP=(NEW,DELETE),
// SPACE=(CYL,(6,1),,CONTIG),
// DCB=(RECFM=F3, LRECL=18, BLKSIZE=6498)
//WK02 DD DSN=DSORT, UNIT=3330, DISP=(NEW,DELETE),
// SPACE=(CYL,(5,1),,CONTIG),
// DCB=(RECFM=F3, LRECL=18, BLKSIZE=6498)
//PMSTR01 DD DSN=EBUSLST, DISP=(OLD,PASS)
//PLABR05 DD DSN=BCNT..M.TRAHIST(&VERS.), DISP=OLD, UNIT=2400,
// DCB=BUFNO=1
//PLABR06 DD DSN=ELRCOST, DISP=(NEW,PASS), UNIT=3330,
// DCB=(RECFM=F3, LRECL=18, BLKSIZE=6498),
// SPACE=(TRK,(100,20),RLSE)

```

FIGURE 5.3-5  
DTS PROCEDURE RPCEPL

```

/* CTL=DALLAS TRANSIT,JDATE=73305
//RPCR45  PROC ACNT='CN151'.SRV'
//RPCR45  EXEC PGM=RP0800,REGION=146K,COND=(7,LE),
//      PARM='          DALLAS TRANSIT          '
//STEPLIB DD DSN=8ACNT..LOAD,DISP=SHR,VOL=PRIVATE
//      DD DSN=PPSORT,DISP=SHR
//SORTLIB DD DSN=PSRTLIB,DISP=SHR
//SORTWK01 DD UNIT=SYSDA,SPACE=(CYL,(3,1),,CONTIG)
//SORTWK02 DD UNIT=SYSDA,SPACE=(CYL,(3,1),,CONTIG)
//SORTWK03 DD UNIT=SYSDA,SPACE=(CYL,(3,1),,CONTIG)
//SYSOUT DD DUMMY
//WK01 DD DSN=8SORT,UNIT=333,DISP=(NEW,DELETE),
//      SPACE=(CYL,(5,1),,CONTIG),DCB=(RECFM=FB,LRECL=97,BLKSIZE=6499)
//WK02 DD DSN=8REPORT,UNIT=333,DISP=(NEW,DELETE),
//      SPACE=(CYL,(5,1),,CONTIG),DCB=(RECFM=FB,LRECL=97,BLKSIZE=6499)
//PMSTRO2 DD DSN=8BUSLST,DISP=(OLD,PASS),DCB=BUFNO=1
//PLABR06 DD DSN=8LBCUST,DISP=(OLD,PASS)
//PTRAN04 DD DSN=8PTCOST,DISP=(OLD,PASS)
//OPRNT01 DD SYSOUT=A,DCB=(RECFM=FB,LRECL=133,BLKSIZE=1330)
//SYSUDUMP DD SYSOUT=A

```

FIGURE 5.3-6  
DTS PROCEDURE RPCR45

```

/* CTL=DALLAS TRANSIT,JOATE=73305
//RPCR50 PROC ACNT='CN151).SRV'
//RPCR50 EXEC PGM=RP080D,REGION=146K,COND=(7,LE),
//      PARM=' DALLAS TRANSIT - LABOP ONLY '
//STEPLIB DD DSN=&ACNT..LOAD,DISP=SHR,VOL=PRIVATE
//      DD DSN=PPSORT,DISP=SHR
//SORTLIB DD DSN=PSRTLIB,DISP=SHR
//SORTWK01 DD UNIT=SYSDA,SPACE=(CYL,(3,1),,CONTIG)
//SORTWK02 DD UNIT=SYSDA,SPACE=(CYL,(3,1),,CONTIG)
//SORTWK03 DD UNIT=SYSDA,SPACE=(CYL,(3,1),,CONTIG)
//SYSOUT DD DUMMY
//WK01 DD DSN=ESORT,UNIT=3330,DISP=(NEW,DELETE),
//      SPACE=(CYL,(5,1),,CONTIG),DCB=(RECFM=FB,LRECL=97,BLKSIZE=6499)
//WK02 DD DSN=GREPORT,UNIT=3330,DISP=(NEW,DELETE),
//      SPACE=(CYL,(5,1),,CONTIG),DCB=(RECFM=FB,LRECL=97,BLKSIZE=6499)
//PMSTR02 DD DSN=BRUSLST,DISP=(OLD,PASS)
//PLABR06 DD DSN=ELACOST,DISP=(OLD,PASS)
//PTRAND04 DD DUMMY,DCB=(RECFM=F,BLKSIZE=18)
//OPRNT01 DD SYSOUT=A,DCB=(RECFM=FB,LRECL=133,BLKSIZE=1330)
//SYSJDDUMP DD SYSOUT=A

```

FIGURE 5.3-7  
DTS PROCEDURE RPCR50

```

/* CTL=DALLAS TRANSIT,JDATE=73305
//PPCR55 PROC ACNT='CN151J.SRV'
//PPCR55 EXEC PGM=RP080D,REGION=145K,COND=(7,LE),
//      PARM=' DALLAS TRANSIT - PARTS ONLY '
//STEPLIB DD DSN=&ACNT..LJAD,DISP=SHR,VOL=PRIVATE
//      DD DSN=PPSORT,DISP=SHR
//SORTWK01 DD UNIT=SYSDA,SPACE=(CYL,(3,1),,CONTIG)
//SORTWK02 DD UNIT=SYSDA,SPACE=(CYL,(3,1),,CONTIG)
//SORTWK03 DD UNIT=SYSDA,SPACE=(CYL,(3,1),,CONTIG)
//SORTLIB DD DSN=PSRTLIB,DISP=SHR
//SYSOUT DD DUMMY
//WK01 DD DSN=&SORT,UNIT=333,DISP=(NEW,DELETE),
//      SPACE=(CYL,(6,1),,CONTIG),DCB=(RECFM=FB,LRECL=97,BLKSIZE=6499)
//WK02 DD DSN=&REPORT,UNIT=333,DISP=(NEW,DELETE),
//      SPACE=(CYL,(6,1),,CONTIG),DCB=(RECFM=FB,LRECL=97,BLKSIZE=6499)
//PMSTR02 DD DSN=&BUSLST,DISP=(OLD,PASS)
//PLABR06 DD DUMMY,DCB=(RECFM=F,BLKSIZE=18)
//PTRAN04 DD DSN=&PTCOST,DISP=(OLD,PASS)
//QPRMT01 DD SYSOUT=A,DCB=(RECFM=FB,LRECL=133,BLKSIZE=1330)
//SYSUDUMP DD SYSOUT=A

```

FIGURE 5.3-8  
DTS PROCEDURE RPCR55



## 6.0 REPAIR COST SYSTEM FILES

The major files used in the Repair Cost System are listed in Table 6.0-1. Their relationship in terms of processing is shown in Figures 6.0-1 and 6.0-2. The former illustrates the system as implemented at AC Transit District (ACTD); the latter illustrates the system as implemented at Dallas Transit System (DTS).

Each file is described in a File Specification Sheet and in Record Specification Sheets. The File Specification Sheet contains:

- (a) File Name: This is the common user name for the file.
- (b) Data Set Name: This is the name used to reference the file in JCL commands.
- (c) Number of Formats: The number of record types in the file.
- (d) Record Size: The number of characters in a record of any type in the file.
- (e) Record Formats: Each record in the file is referenced by format or transaction code, where appropriate, and the record name. The maximum and minimum number of each type of record in the file is shown, when appropriate.
- (f) Program Use: Each program that uses the file is identified by name and number. The use of the file, as input and/or output, and the COBOL name by which the file is referenced in each program are described.

The Record Specification Sheet contains:

- (a) Record Name: This is the common user name for the record.
- (b) File Name: This is the common user name for the file that contains the record. It is provided as a cross-reference.
- (c) COBOL Name of Record: This is the name given to the structure used to define the record.

- (d) Record Format Code: This is the format or transaction code by which each type of record is referenced.
- (e) Record Length: This is the number of characters in the record.
- (f) A description of each data item in the record in terms of:
  - (1) initial character position of the field containing the item.
  - (2) the number of characters in the field.
  - (3) the type of characters in the field where:
    - 9 represents digits
    - A represents alphabetic characters
    - X represents alphanumerics
  - (4) the COBOL name of the field.
  - (5) a description of the data item.

Each subsection, as specified in Table 6.0-1, describes a file.

A brief description of the purpose of each file is included.

TABLE 6.C-1  
SIMS REPAIR COST SYSTEM FILES

<u>Subsection Number</u>	<u>File Name</u>	<u>Data Set Name</u>
Permanent Files:		
6.1	Labor Transaction History File	CN1510.RPC.M.TRANHIST( )
6.2	Inventory Transaction History File	CN1744.INV.M.TRANTAPE(Ø)
6.3	Vehicle Master File	CN1510.SRV.M.VEHICLE(Ø)
6.4	ACTD Labor Transaction File	AC.TIME.CARDS
6.5	DTS Labor Transaction File	DTS.TIME.CARDS
6.6	Employee Master File	CN1510.RPC.S.EMPFILE
6.7	DTS Employee Card File	EMPLCD
6.8	Maintenance Report Generator Control File	MCNTRL
6.9	Maintenance Report Classification File	MCLASS
6.10	Report Request File	CN1510.RPC.S.DATEFILE
6.11	Date Card File	DATECD
Temporary Files:		
6.12	Temporary Labor Transaction File	&RPCTRAN
6.13	Labor Hours Extract File	&LABOR
6.14	Labor Cost Extract File	&LBCOST
6.15	Materials Cost Extract File	&PTCOST
6.16	Vehicle Extract File	&BUSLST

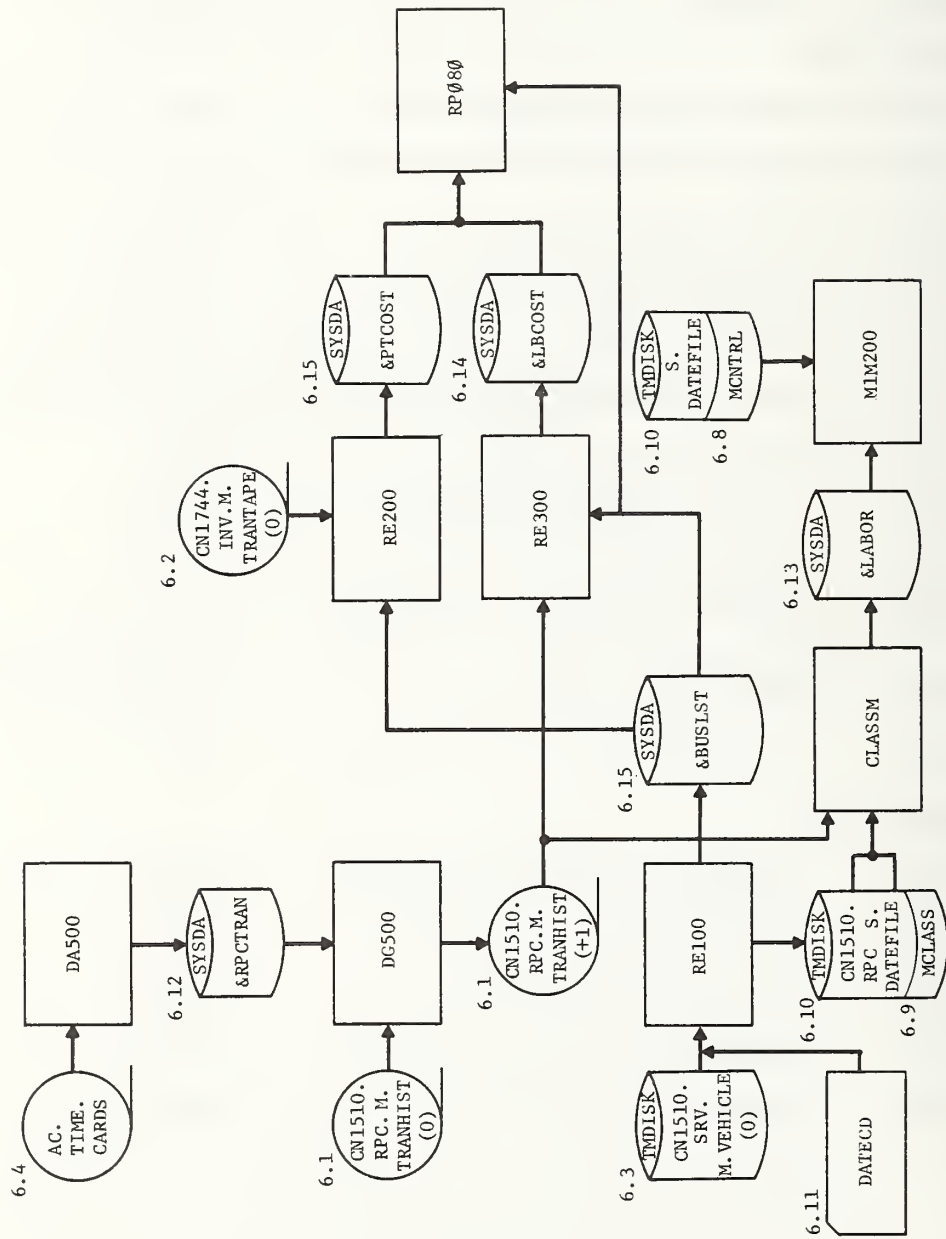


FIGURE 6.0-1  
ACTD REPAIR COST SYSTEM FLOWCHART

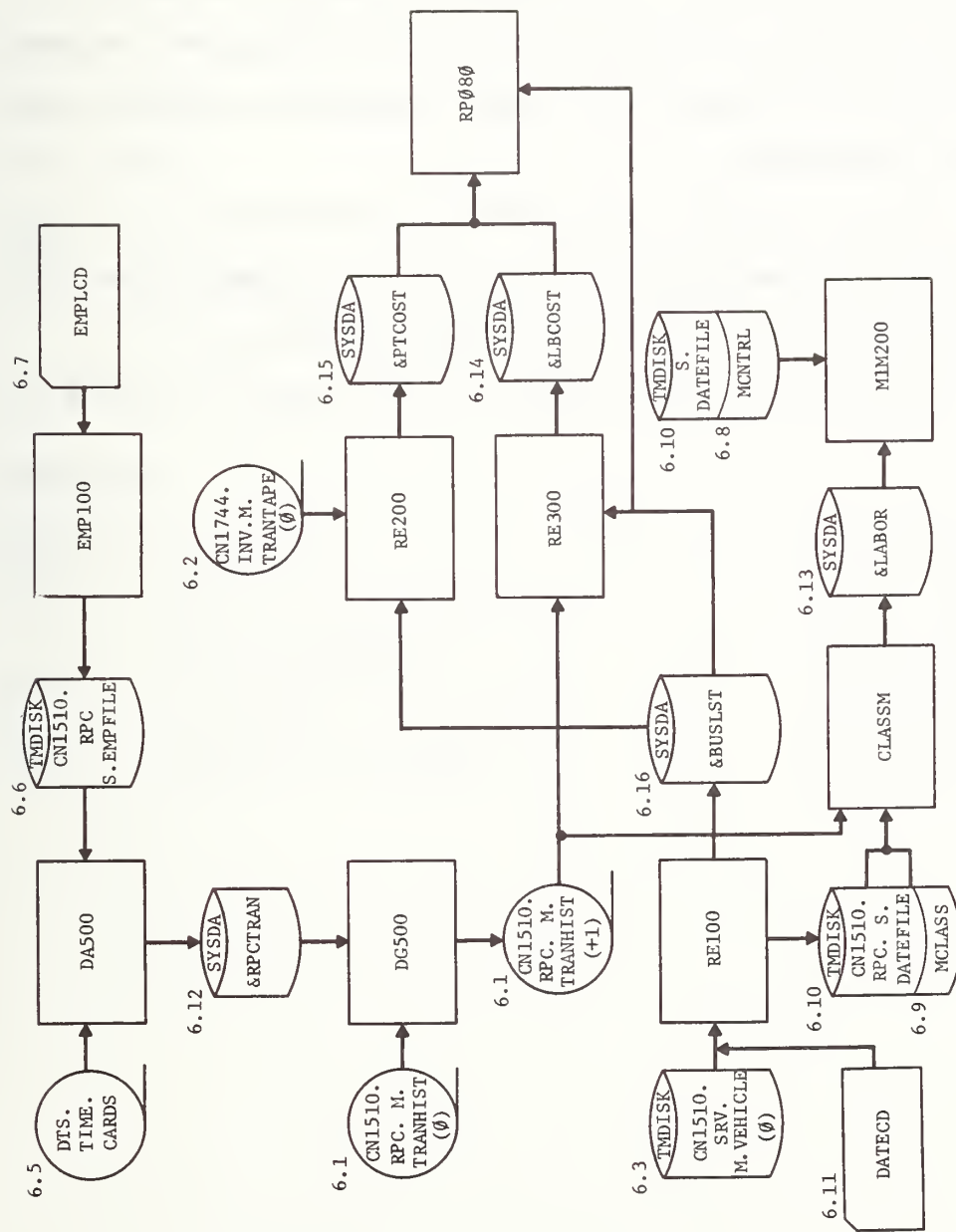


FIGURE 6.0-2  
DTS REPAIR COST SYSTEM FLOWCHART

#### 6.1 Labor Transaction History File (CN1510.RPC.M.TRANHIST( ))

The Labor Transaction History File is a magnetic tape file, and is the basic file of the SIMS Repair Cost System. It contains records, by maintenance employee number, of the distribution of work time according to task performed.

The Labor Transaction History File is a generation data set. Three versions are cataloged on disk at all times. The versions represent the result of the three most recent system executions.

File and record specifications are given in Tables 6.1-1 and 6.1-2.

TABLE 6.1-1

## R/C SYSTEM FILE SPECIFICATION

FILE NAME: Labor Transaction History FileDATA SET NAME: CN1510.RPC.M.TRANHIST( )NUMBER OF RECORD FORMATS: 1RECORD SIZE: 120 CharactersFILE ORGANIZATION: Records are sequenced by processing dateRECORD FORMATS

<u>FORMAT CODE</u>	<u>RECORD NAME</u>	<u>MAX. NO.</u>	<u>MIN. NO.</u>
-	Labor Distribution Record	U	1

PROGRAM USE

<u>PROGRAM IDENT.</u>	<u>PROGRAM NAME</u>	<u>I/O</u>	<u>PROGRAM COBOL NAME FOR FILE</u>
DG500	Labor Transaction History File Edit/Update	R	INPUT-TRAN-HIST
DG500	Labor Transaction History Edit/Update	W	OUTPUT-TRAN-HIST
CLASSM	Maintenance Report Extract	R	INPUT-FILE
RE300	Labor Cost File Extract	R	ILABR-FILE

TABLE 6.1-2

## RECORD SPECIFICATION

RECORD NAME: Labor Distribution RecordFILE NAME: Labor Transaction History FileCOBOL NAME OF RECORD: LABOR-COST-INPUT-RECORDRECORD LENGTH: 120 Characters

<u>FIELD POS.</u>	<u>FIELD LENG.</u>	<u>FORMAT</u>	<u>COBOL FIELD NAME</u>	<u>FIELD DESCRIPTION</u>
1	6	9(6)	LC-PROCESS-DATE	Processing Date (YYMMDD)
7	6	9(6)	LC-KEY-DATE	Transaction Date (YYMMDD)
13	4	9(4)	LC-KEY-EMP-NBR	Employee Number
17	2	XX	LC-IN-DAY	Transaction Day
19	1	X	LC-IN-NEG-CODE	Transaction Correction Code
20	27	X(27)	FILLER	
47	1	X	LC-IN-SHIFT	Shift Worked
48	4	S99V99	LC-IN-REG-HOURS	Regular Hours
52	4	S99V99	LC-IN-PREM-HOURS	Premium Hours
56	2	XX	LC-IN-VEH-GRP-CODE	Group Code
58	2	XX	LC-IN-UNIT-CODE	Unit Code
60	2	XX	LC-IN-ORG-CODE	Organization Code
62	2	XX	FILLER	
64	2	XX	LC-IN-TYPE-REASON	Work Type-Reason Code
66	4	X(4)	LC-IN-EMPLOYEE-CODE	Employee Number
70	4	9V999	LC-IN-HOURLY-RATE	Hourly Pay Rate
74	1	X	LC-IN-WO-CONTROL	Work Order Control
75	4	X(4)	LC-IN-WO-NBR	Work Order Number
79	4	X(4)	LC-IN-ACCT	Account Number
83	2	XX	LC-IN-SUB-ACCT	Sub-Account Number
85	1	X	LC-IN-USER-DIV	Division Code
86	4	X(4)	LC-IN-VEH-NBR	Vehicle Number
90	1	X	LC-IN-FLEET-CODE	Fleet Code
91	6	X(6)	LC-IN-DATE	Transaction Date (MMDDYY)
97	24	X(24)	FILLER	
TOTAL	120			



## 6.2 Inventory Transaction History File (CN1744.INV.M.TRANTAPE( ))

The Inventory Transaction History File is one of the major files of the SIMS Inventory System. It is a tape file, containing the permanent history of transactions entered in the Inventory System. This file is a generation data set. Repair Cost System procedures call for the current generation, version 0, during system execution.

The Inventory Transaction History File is described in Table 6.2-1. The file contains 23 types of records. These records are defined by 11 formats. Record Formats are referenced by two codes. The alphabetic codes are transaction codes included in the original input record. The numeric codes represent part of the sort key added to the record during processing.

Only two types of record is used by the Repair Cost System. The materials issue and the return-to-stores records are used to compute the cost of parts issued for the maintenance of revenue vehicles. The specifications of these record types, as defined for the Repair Cost System, are described in Table 6.2-2. The specifications of these record types, as defined for the Inventory System, and of the other record types, are described in the documentation of the Inventory System.

TABLE 6.2-1

## R/C SYSTEM FILE SPECIFICATION

FILE NAME: Inventory Transaction History FileDATA SET NAME: CN1744.INV.M.TRANTAPE( )NUMBER OF RECORD FORMATS: 11RECORD SIZE: 127 Characters

FILE ORGANIZATION: Records are sequenced by: Processing Date  
 Part Number  
 Transaction Date  
 Transaction Code

RECORD FORMATS

<u>FORMAT</u> <u>CODE</u>	<u>RECORD NAME</u>	<u>MAX. NO.</u> <u>PER PART</u>	<u>MIN. NO.</u> <u>PER PART</u>
AA,AX (01,02)	Item Characteristics Record	U	1
BA (03)	Item Description Record	U	0
BA,DX (07,08)	Division Stock Record	U	0
EA (09)	Average Unit Price Change Record	U	0
0A,0N (12,13)	Purchase Order Record	U	0
2A,2N (15,16)			
3A,3N (17,18)	Quantity Adjustment Record	U	0
4A,4N (19,20)			
6A,6N (21,22)	Materials Receipt Record	U	0
7A,7N (23,24)	Vendor Return Record	U	0
8A,8N (26,14)	Materials Issue Record	U	0
9A,9N (27,28)	Value Adjustment Record	U	0
RS (29)	Reorder Suspense Record	U	0

PROGRAM USE

<u>PROGRAM</u> <u>IDENT.</u>	<u>PROGRAM NAME</u>	<u>I/O</u>	<u>PROGRAM COBOL</u> <u>NAME FOR FILE</u>
RE200	Materials Cost File Extract	R	ITRAN-FILE

TABLE 6.2-2  
RECORD SPECIFICATION

RECORD NAME: Materials Issue Record (Return-to-Stores Record)

FILE NAME: Inventory Transaction History File

COBOL NAME OF RECORD: ITRAN-RECORD

RECORD FORMAT CODE: 8A, 1A, (26,14)

RECORD LENGTH: 127 Characters

<u>FIELD POS.</u>	<u>FIELD LENG.</u>	<u>FORMAT</u>	<u>COBOL FIELD NAME</u>	<u>FIELD DESCRIPTION</u>
1	6	X(6)	PROCESS-DATE	Inventory System Pro- cessing Date
7	2	XX	CLASS-CODE	Inventory Class Code
9	9	X(9)	FILLER	
18	6	X(6)	TRANS-DATE	Transaction Date
24	2	XX	TRANS-CODE	Transaction Code
26	21	X(21)	FILLER	
47	7	9(5)V99	ISSUED-QTY	Quantity Issued
54	35	X(35)	FILLER	
89	4	X(4)	WORK-ORDER	Work Order Number
93	6	X(6)	ACCT-NO	Account Number
99	1	X	FILLER	
100	4	X(4)	VEH-NO	Vehicle Number
104	1	X	FLEET-CODE	Fleet Code
105	15	X(15)	FILLER	
120	8	S9(4)V9(4)	UNIT-PRICE	Unit Price
TOTAL	127			

### 6.3 Vehicle Master File (CN1510.SRV.M.VEHICLE( ))

The Vehicle Master File is the basic file of the SIMS Service/Unit Change System. It is a disk file, containing a set of records for each vehicle in the system. These records are of mileage traveled, vehicle servicing, and maintenance performed. The file is a generation data set. Repair Cost System Procedures call for the most current generation, version 0, during system execution.

The Vehicle Master File is described in Table 6.3-1. The file contains 11 types of records. Only two types of record are used by the Repair Cost System. The vehicle header records are used to identify each vehicle and the monthly summary records are the source of mileage traveled. The specifications of the Vehicle Header Record and the Monthly Summary Record, as defined for the Repair Cost System, are described in Tables 6.3-2 and 6.3-3. The specifications of these records, as defined for the Service/Unit Change System, and of the other record types are described in the documentation of the Service/Unit Change System.

TABLE 6.3-1

## R/C SYSTEM FILE SPECIFICATION

FILE NAME: Vehicle Master FileDATA SET NAME: CN1510.SRV.M.VEHICLE( )NUMBER OF RECORD FORMATS: 11      RECORD SIZE: 30 CharactersFILE ORGANIZATION: Records are sequenced by: Bus Number  
Record Format Code  
Record DateRECORD FORMATS

<u>FORMAT CODE</u>	<u>RECORD NAME</u>	<u>MAX. NO.</u>	<u>MIN. NO.</u>
20	Header Record	1	1
21	Accumulated Miles Record	1	1
24	Daily Record	80	0
26	Monthly Summary Record	7	0
27	Monthly Commodity Cost Record	7	0
29	Inspection Record	1	0
31	Unit Change Cost	50	0
34	Engine Rering Record	1	0
35	Engine Overhaul Record	1	0
38	Brake Mileage Record	1	0
39	Brake Drum Record	1	0

PROGRAM USE

<u>PROGRAM IDENT.</u>	<u>PROGRAM NAME</u>	<u>I/O</u>	<u>PROGRAM COBOL NAME FOR FILE</u>
RE100	Vehicle File Extract	R	IMSTR-FILE

TABLE 6.3-2

## RECORD SPECIFICATION

RECORD NAME: Header RecordFILE NAME: Vehicle Master FileCOBOL NAME OF RECORD: I-VEH-HDRRECORD FORMAT CODE: 20RECORD LENGTH: 30 Characters

<u>FIELD POS.</u>	<u>FIELD LENG.</u>	<u>FORMAT</u>	<u>COBOL FIELD NAME</u>	<u>FIELD DESCRIPTION</u>
1	2	99	I-VEH-FORMAT	Record Format Code
3	4	X(4)	I-VEH-NO	Bus Number
7	6	9(6)	I-VEH-DATE	Date of Record
13	2	XX	I-VEH-FLEET-NBR	Fleet Code
15	4	X(4)	FILLER	
19	2	XX	I-ASSIGNMENT	Division Assignment
21	6	9(6)	I-ASSIGNMENT-DATE	Division Assignment Date
27	2	XX	I-PRIOR	Prior Division Assignmen
29	2	XX	FILLER	
TOTAL	30			

TABLE 6.3-3  
RECORD SPECIFICATION

RECORD NAME: Monthly Summary Record

FILE NAME: Vehicle Master File

COBOL NAME OF RECORD: 26

RECORD LENGTH: 30 Characters

<u>FIELD POS.</u>	<u>FIELD LENG.</u>	<u>FORMAT</u>	<u>COBOL FIELD NAME</u>	<u>FIELD DESCRIPTION</u>
1	12	X(12)	FILLER	
13	5	S9(5)	I-MILES-MTD	Monthly Miles
18	5	S9(4)V9	I-FUEL-MTD	Monthly Fuel
23	4	S9(3)V9	I-OIL-MTD	Monthly Oil
27	3	S9(3)	I-COOL-MTD	Monthly Coolant
30	<u>1</u>	X	FILLER	
TOTAL	30			

#### 6.4 ACTD Labor Transaction File (AC.TIME.CARDS)

The ACTD Labor Transaction file is a file of 80-character records. The records may be in the form of cards or of card images on magnetic tape. The format of the records is specific to ACTD.

The file contains records of maintenance work performed. Each record identifies in detail the nature of the work performed, the employee performing the work, and the hours charged. The record also contains the hourly pay rate of the employee.

File and record specifications are described in Tables 6.4-1 and 6.4-2.



TABLE 6.4-1

R/C SYSTEM FILE SPECIFICATION

FILE NAME: ACTD Labor Transaction File

DATA SET NAME: AC.TIME.CARDS

NUMBER OF RECORD FORMATS: 1      RECORD SIZE: 80 Characters

FILE ORGANIZATION: Random Order

RECORD FORMATS

<u>FORMAT CODE</u>	<u>RECORD NAME</u>	<u>MAX. NO.</u>	<u>MIN. NO.</u>
	ACTD Labor Distribution Record	U	1

PROGRAM USE

<u>PROGRAM IDENT.</u>	<u>PROGRAM NAME</u>	<u>I/O</u>	<u>PROGRAM COBOL NAME FOR FILE</u>
DA500A	Data Acceptance-ACTD	R	INPUT-TIME-CARD

TABLE 6.4-2

## RECORD SPECIFICATION

RECORD NAME: ACTD Labor Distribution RecordFILE NAME: ACTD Labor Transaction FileCOBOL NAME OF RECORD: CR-DIST-CARDRECORD FORMAT CODE: NoneRECORD LENGTH: 80 Characters

<u>FIELD POS.</u>	<u>FIELD LENG.</u>	<u>FORMAT</u>	<u>COBOL FIELD NAME</u>	<u>FIELD DESCRIPTION</u>
1	2	XX	CR-TR-DAY-MO	Day of Month of Trans- action
3	1	X	CR-TR-NEG-CODE	Transaction Modifier Code
4	6	X(6)	FILLER	
10	1	X	CR-TR-TIME-CARD	Time Card Indicator (= '-')
11	20	X(20)	FILLER	
31	1	X	CR-TR-SHIFT	Shift Worked
32	4	99V99	CR-TR-REG-HOURS	Regular Hours Worked
36	4	99V99	CR-TR-PREM-HOURS	Premium Hours Worked
40	2	XX	CR-TR-VEH-CODE	Group Code
42	2	XX	CR-TR-UNIT-CODE	Unit Code
44	2	XX	CR-TR-ORG-CODE	Organization Code
46	2	XX	FILLER	
48	1	X	CR-TR-WORK-TYPE	Work Type Code
49	1	X	CR-TR-REASON-CODE	Reason Code
50	4	X(4)	CR-TR-EMP-NBR	Employee Number
54	4	9V9(3)	CR-TR-PAY-RATE	Hourly Pay Rate
58	1	X	CR-TR-WO-CONTRL	Work Order Field Indicator
59	4	X(4)	CR-TR-WO-NBR	Work Order Number
63	4	X(4)	CR-TR-ACCT-NBR	Account Number
67	2	XX	CR-TR-SUB-ACCT	Subaccount Number
69	1	X	CR-TR-USER-DIV	User Division Code
70	4	X(4)	CR-TR-VEH-NBR	Vehicle Number
74	1	X	CR-TR-FLEET-CODE	Fleet Code
75	6	X(6)	CR-TR-TRAN-DATE	Transaction Date (MMDDYY)
TOTAL	80			

#### 6.5 DTS Labor Transaction File (DTS.TIME.CARDS)

The DTS Labor Transaction File is a file of 80-character records. The records may be in the form of punched cards or of card-images on magnetic tape. The record format is specific to DTS.

The file contains records of maintenance work performed. Each record identifies in detail the nature of the work performed, the employee performing the work, and the hours charged.

File and record specifications are described in Tables 6.5.1 and 6.5.2.

TABLE 6.5-1

## R/C SYSTEM FILE SPECIFICATION

FILE NAME: DTS Labor Transaction File

DATA SET NAME: DTS.TIME.CARDS

NUMBER OF RECORD FORMATS: 1      RECORD SIZE: 80 Characters

FILE ORGANIZATION: Random Order

RECORD FORMATS

<u>FORMAT</u> <u>CODE</u>	<u>RECORD NAME</u>	<u>MAX. NO.</u>	<u>MIN. NO.</u>
	DTS Labor Distribution Record	U	1

PROGRAM USE

<u>PROGRAM</u> <u>IDENT.</u>	<u>PROGRAM NAME</u>	<u>I/O</u>	<u>PROGRAM COBOL</u> <u>NAME FOR FILE</u>
DA500D	Data Acceptance - DTS	R	INPUT-TIME-CARD

TABLE 6.5-2

## RECORD SPECIFICATION

RECORD NAME: DTS Labor Distribution RecordFILE NAME: DTS Labor Transaction FileCOBOL NAME OF RECORD: DTS-DIST-CARDRECORD FORMAT CODE: NoneRECORD LENGTH: 80 Characters

<u>FIELD POS.</u>	<u>FIELD LENG.</u>	<u>FORMAT</u>	<u>COBOL FIELD NAME</u>	<u>FIELD DESCRIPTION</u>
1	4	X(4)	FILLER	
5	1	X	ID-CODE-T	Transit Identification Code (=T)
6	4	X(4)	DTS-EMP-NBR	Employee Number
10	3	X(3)	FILLER	
13	3	X(3)	DTS-PAY-RATE	Exception Hourly Pay Rate
16	2	XX	DTS-BONUS-CODE	Premium Pay Code
18	7	X(7)	FILLER	
25	1	X	EXCP-PAY-CODE	Exception Pay Code (=X)
26	4	X(4)	FILLER	
30	4	X(4)	DTS-WO-NBR	Work Order Number
34	4	X(4)	DTS-ACCT-NBR	Account Number
38	4	X(4)	DTS-VEH-NBR	Vehicle Number
42	2	XX	DTS-VEH-CODE	Group Code
44	2	XX	DTS-UNIT-CODE	Unit Code
46	1	X	DTS-WORK-TYPE	Work Type Code
47	1	X	DTS-REASON-CODE	Reason Code
48	12	X(12)	FILLER	
60	2	99	DTS-REG-HRS	Regular Hours Worked
62	2	99	DTS-REG-MIN	Fractional Regular Hours (in minutes)
64	1	X	FILLER	
65	2	99	DTS-OVTIM-HRS	Overtime Hours Worked
67	2	99	DTS-OVTIM-MIN	Fractional Overtime Hours (in minutes)
69	6	9(6)	DTS-TRAN-DATE	Transaction Date (MMDDYY)
75	6	X(6)	FILLER	
TOTAL	80			

#### 6.6 Employee Master File (CN1510.RPC.S.EMPFILE)

The Employee Master File is a disk file. It contains one record for each maintenance employee, specifying employee number and hourly pay rate. This file is specific to DTS and is used in the conversion of the DTS Labor Transaction File to a format acceptable to the Repair Cost System.

File and record specifications are described in Tables 6.6-1 and 6.6-2.

TABLE 6.6-1

## R/C SYSTEM FILE SPECIFICATION

FILE NAME: Employee Master FileDATA SET NAME: CN1510.RPC.S.EMPFILENUMBER OF RECORD FORMATS: 1      RECORD SIZE: 18 CharactersFILE ORGANIZATION: Records are sequenced by employee numberRECORD FORMATS

<u>FORMAT CODE</u>	<u>RECORD NAME</u>	<u>MAX. NO.</u>	<u>MIN. NO.</u>
	DTS Employee Record	U	1

PROGRAM USE

<u>PROGRAM IDENT</u>	<u>PROGRAM NAME</u>	<u>I/O</u>	<u>PROGRAM COBOL NAME FOR FILE</u>
EMP100	DTS Employee File Extract	W	ODISK-FILE
DA500D	Data Acceptance - DTS	R	DTS-PAY-FILE

TABLE 6.6-2

## RECORD SPECIFICATION

RECORD NAME: DTS Employee Record

FILE NAME: Employee Master File

COBOL NAME OF RECORD: OSORT-RECORD

RECORD FORMAT CODE: None

RECORD LENGTH: 18 Characters

<u>FIELD POS.</u>	<u>FIELD LENG.</u>	<u>FORMAT</u>	<u>COBOL FIELD NAME</u>	<u>FIELD DESCRIPTION</u>
1	4	9(4)	O-EMP-NO	Employee Number
5	2	99	O-ORG-CODE	Organization Code
7	4	9V9(3)	O-PAY-RATE	Hourly Pay Rate
11	<u>8</u>	X(8)	FILLER	
TOTAL	18			



#### 6.7 DTS Employee Card File (EMPLCD)

The DTS Employee Card File is a set of 80-character records in the form of punched cards. The record contains employee information, including hourly pay rate and identity of the organizational unit to which the employee is assigned. The DTS Employee File Extract program (EMPL00) reads this file and extracts data from the records for maintenance employees. The extracted records are stored in the Employee Master File (see Section 6.6).

File and record specifications are provided in Tables 6.7-1 and 6.7-2.

TABLE 6.7-1

## R/C SYSTEM FILE SPECIFICATION

FILE NAME: DTS Employee Card File

DATA SET NAME: EMPLCD

NUMBER OF RECORD FORMATS: 1

RECORD SIZE: 80 Characters

FILE ORGANIZATION: Random Order

RECORD FORMATS

<u>FORMAT CODE</u>	<u>RECORD NAME</u>	<u>MAX. NO.</u>	<u>MIN. NO.</u>
	DTS Employee Card	U	1

PROGRAM USE

<u>PROGRAM IDENT.</u>	<u>PROGRAM NAME</u>	<u>I/O</u>	<u>PROGRAM COBOL NAME FOR FILE</u>
EMP100	DTS Employee File Extract	R	INPUT-FILE

TABLE 6.7-2  
RECORD SPECIFICATION

RECORD NAME: DTS Employee Card Record

FILE NAME: DTS Employee Card File

COBOL NAME OF RECORD: INPUT-RECORD

RECORD FORMAT CODE: None

RECORD LENGTH: 80 Characters

<u>FIELD POS.</u>	<u>FIELD LENG.</u>	<u>FORMAT</u>	<u>COBOL FIELD NAME</u>	<u>FIELD DESCRIPTION</u>
1	4	9(4)	IN-DEPT-CODE	Department Code
5	1	X	IN-TRANSIT	Transit Employee Identifier (=T)
6	4	9(4)	IN-EMP-NO	Employee Number
10	28	X(28)	FILLER	
38	2	XX	IN-FUNCTION-CODE	Job Classification
40	1	X	FILLER	
41	1	9	IN-ACCOUNT-CODE	Acceptance Account Code (=7)
42	3	X(3)	FILLER	
45	1	9	IN-SIX	Payroll Code (=6)
46	5	X(5)	FILLER	
51	3	9V99	IN-PAY-RATE	Hourly Pay Rate
54	<u>27</u>	X(27)	FILLER	
TOTAL	80			

#### 6.8 Maintenance Report Generator Control File - (MCNTRL)

The Maintenance Report Generator Control File is a disk file. It contains a set of 60-character records that provide control information to the Maintenance Report Generator program, MIM200. The records contain transit-specific program constants for calculating and classifying labor costs of maintenance work performed.

File and record specifications are provided in Tables 6.8-1 and 6.8-2.

TABLE 6.8-1

## R/C SYSTEM FILE SPECIFICATION

FILE NAME: Maintenance Report Generator Control FileDATA SET NAME: MCNTRLNUMBER OF RECORD FORMATS: 1RECORD SIZE: 60 CharactersFILE ORGANIZATION: Sequenced by transit property code: 61 = ACTD  
62 = DTSRECORD FORMATS

<u>FORMAT CODE</u>	<u>RECORD NAME</u>	<u>MAX. NO.</u>	<u>MIN. NO.</u>
	Constants Record	U	2

PROGRAM USE

<u>PROGRAM IDENT</u>	<u>PROGRAM NAME</u>	<u>I/O</u>	<u>PROGRAM COBOL NAME FOR FILE</u>
MLM200	Maintenance Report Generator	R	CONSTANTS

TABLE 6.8-2

## RECORD SPECIFICATION

RECORD NAME: Constants RecordFILE NAME: Maintenance Report Generator Control FileCOBOL NAME OF RECORD: NoneRECORD LENGTH: 60 Characters

<u>FIELD POS.</u>	<u>FIELD LENG.</u>	<u>FORMAT</u>	<u>COBOL FIELD NAME</u>	<u>FIELD DESCRIPTION</u>
1	2	XX	CONSTANT-CODE	Transit Property Identifier Code
3	5	99V999	STANDARD-RATE	Standard Hourly Rate
8	3	9V99	REGULAR-OVERTIME- RATE	Overtime Rate as Multiple of Regular Hours
11	3	9V99	SPECIAL-OVERTIME- RATE	Holiday Overtime Rate as Multiple of Regular Hours
14	2	9V9	FRACTIONAL-HOUR- FACTOR	Factor for Conversion of Minutes to Fraction of Hour
16	3	9(3)	RATE-APPLICABILITY	Specification of Source of Hourly Rates
19	1	9	DIFFERENTIAL- APPLICABILITY	Specification of Source of Differential Rate
20	1	9	OT-HOURS-APPLICA- BILITY	Overtime Hour Calculation Flag
21	1	9	LC-IN-LOCATION- USE-FLAG	Location Flag Default Indicator
22	30	X(3)	LOCATION-CODES (occurs 10 times)	Report Column Location Identifiers
52	<u>9</u>	X(3)	DIFFERENTIALS (occurs 3 times)	Differential Categories and Rates
TOTAL	60			

#### 6.9 Maintenance Report Classification File (MCLASS)

The Maintenance Report Classification File is a disk file. It contains a table of transaction classification criteria. This table is used in the Maintenance Report Extract program (CLASSM). Each table entry consists of data defining a type of maintenance work, and up to nine classifications under which that maintenance work may be reported. The table is used in the Maintenance Report Extract program (CLASSM) to classify maintenance labor transactions.

File and record specifications are provided in Tables 6.9-1 and 6.9-2.

TABLE 6.9-1

## R/C SYSTEM FILE SPECIFICATION

FILE NAME: Maintenance Report Classification File

DATA SET NAME: MCLASS

NUMBER OF RECORD FORMATS: 1

RECORD SIZE: 60 Characters

FILE ORGANIZATION: Table is organized by estimated frequency of transactions, in terms of maintenance work types represented, in descending order

RECORD FORMATS

<u>FORMAT CODE</u>	<u>RECORD NAME</u>	<u>MAX. NO.</u>	<u>MIN. NO.</u>
	Classification Record	500	1

PROGRAM USE

<u>PROGRAM IDENT.</u>	<u>PROGRAM NAME</u>	<u>I/O</u>	<u>PROGRAM COBOL NAME FOR FILE</u>
CLASSM	Maintenance Report Extract	R	CLASSIFICATION-FILE



TABLE 6.9-2  
RECORD SPECIFICATION

RECORD NAME: Classification Record

FILE NAME: Maintenance Report Classification File

COBOL NAME OF RECORD: CLASSIFICATION

RECORD FORMAT CODE: None

RECORD LENGTH: 60 Characters

<u>FIELD POS.</u>	<u>FIELD LENG.</u>	<u>FORMAT</u>	<u>COBOL FIELD NAME</u>	<u>FIELD DESCRIPTION</u>
1	4	X(4)	MASK-FIELD1	Account Number
5	2	XX	MASK-FIELD2	Subaccount Number
7	4	X(4)	MASK-FIELD3	Work Order Number
11	1	X	MASK-FIELD4	Vehicle Fleet Number
12	4	X(4)	MASK-FIELD5	Vehicle Number
16	2	XX	MASK-FIELD6	Vehicle Group Code
18	2	XX	MASK-FIELD7	Unit Code
20	2	XX	MASK-FIELD8	Work Type/Reason Code
22	36	X(4)	REPORT-CLASSIFI- CATION AREA (occurs 9 times)	Paragraph and Line (with- in paragraph) of Report for Data Entry
58	<u>3</u>	X(3)	FILLER	
TOTAL	60			

#### 6.10 Report Request File (CN1510.RPC.S.DATEFILE)

The Request Date File is a disk file created through the execution of the Vehicle Extract program, RE100. It contains report request records that specify the reports to be produced by the Maintenance Report Generator program, MIM200. Each record contains a report code, a date giving the month of the report, and the accumulated miles for the report month.

File and record specifications are provided in Tables 6.10-1 and 6.10-2.

TABLE 6.10-1

## R/C SYSTEM FILE SPECIFICATION

FILE NAME: Report Request FileDATA SET NAME: CN1510.RPC.S.DATEFILENUMBER OF RECORD FORMATS: 1                      RECORD SIZE: 18 CharactersFILE ORGANIZATION: Random OrderRECORD FORMATS

<u>FORMAT</u> <u>CODE</u>	<u>RECORD NAME</u>	<u>MAX. NO.</u>	<u>MIN. NO.</u>
	Report Request Record	3	Ø

PROGRAM USE

<u>PROGRAM</u> <u>IDENT.</u>	<u>PROGRAM NAME</u>	<u>I/O</u>	<u>PROGRAM COBOL</u> <u>NAME FOR FILE</u>
RE1ØØ	Vehicle File Extract	W	PDATE-FILE
CLASSM	Maintenance Report Extract	R	DATES-FILE
MIM2ØØ	Maintenance Report Genrator	R	DATE-FILE

TABLE 6.10-2  
RECORD SPECIFICATION

RECORD NAME: Report Request Record

FILE NAME: Report Request File

COBOL NAME OF RECORD: DATE-REC

RECORD FORMAT CODE: None

RECORD LENGTH: 18 Characters

<u>FIELD POS.</u>	<u>FIELD LENG.</u>	<u>FORMAT</u>	<u>COBOL FIELD NAME</u>	<u>FIELD DESCRIPTION</u>
1	2	XX	D-REPORT-NO	Report Code
3	6	9(6)	D-DATE	Report Date (YYMMDD)
9	7	9(7)	D-ACCUM-MILES	Vehicle Miles for Report Period
16	<u>3</u>	X(3)	FILLER	
TOTAL	18			

#### 6.11 Date Card File (DATECD)

The Date Card File is a set of 80-character records read through the job stream on punched cards. The file contains a user-supplied set of report request cards for Repair Cost System reports. Table 6.11-1 lists the valid report codes, along with the program executed and report produced.

File and record specifications are given in Tables 6.11-2 and 6.11-3.

TABLE 6.11-1

## SIMS REPAIR COST REPORT CODES

<u>REPORT CODE</u>	<u>PROGRAM EXECUTED</u>	<u>REPORTS GENERATED</u>
R1	RP080	Bus Repair Cost By Subassembly  Bus Repair Cost By Subassembly - Labor Only  Bus Repair Cost By Subassembly - Parts Only
R2	M1M200	Hourly Maintenance Labor Utilization Report  Maintenance Labor Cost Report

TABLE 6.11-2

## R/C SYSTEM FILE SPECIFICATION

FILE NAME: Date Card FileDATA SET NAME: DATECDNUMBER OF RECORD FORMATS: 1      RECORD SIZE: 80 CharactersFILE ORGANIZATION: Random OrderRECORD FORMATS

<u>FORMAT CODE</u>	<u>RECORD NAME</u>	<u>MAX. NO.</u>	<u>MIN. NO.</u>
	Date Record	4	1

PROGRAM USE

<u>PROGRAM IDENT.</u>	<u>PROGRAM NAME</u>	<u>I/O</u>	<u>PROGRAM COBOL NAME FOR FILE</u>
RE100	Vehicle File	R	ICARD-FILE

TABLE 6.11-3

## RECORD SPECIFICATION

RECORD NAME: Date Record

FILE NAME: Date Card File

COBOL NAME OF RECORD: WS-REQ-RECORD

RECORD FORMAT CODE: None

RECORD LENGTH: 80 Characters

<u>FIELD POS.</u>	<u>FIELD LENG.</u>	<u>FORMAT</u>	<u>COBOL FIELD NAME</u>	<u>FIELD DESCRIPTION</u>
1	2	XX	WS-REQ-CDE	Report Code
3	6	9(6)	WS-REQ-DATE	Report Date (YYMMDD)
9	1	X	FILLER	
10	6	9(6)	WS-REQ-DATE2	Report Period Ending Date
16	<u>65</u>	FILLER		
TOTAL	80			

Note: Use of this input record is described in Section 4.3



#### 6.12 Temporary Labor Transaction File (&RPCTTRAN)

The Temporary Labor Transaction File is a disk file created through execution of the Data Acceptance program, DA500. It contains maintenance labor distribution transactions that have been reformatted for processing by the Repair Cost System. This temporary file is deleted upon completion of the system run.

File specifications are provided in Table 6.12-1. The specifications for the single type of record, Reformated Labor Distribution Record, are the same as for the Labor Distribution Record described in Table 6.1-2.

TABLE 6.12-1

## R/C SYSTEM FILE SPECIFICATION

FILE NAME: Temporary Labor Transaction FileDATA SET NAME: &RPCTRANNUMBER OF RECORD FORMATS: 1                      RECORD SIZE: 120 CharactersFILE ORGANIZATION: Random OrderRECORD FORMATS

<u>FORMAT CODE</u>	<u>RECORD NAME</u>	<u>MAX. NO.</u>	<u>MIN. NO.</u>
	Reformatted Labor Distribution Record	U	1

PROGRAM USE

<u>PROGRAM IDENT.</u>	<u>PROGRAM NAME</u>	<u>I/O</u>	<u>PROGRAM COBOL NAME FOR FILE</u>
DA500	Data Acceptance (ACTD & DTS)	W	OUTPUT-DIST-TRAN
DG500	Labor Transaction History File Edit/Update	R	INPUT-TRAN-TEMP

Note: Record specifications are the same as for the Labor Distribution Record (see Table 6.1-2).

### 6.13 Labor Hours Extract File (&LABOR)

The Labor Hours Extract File is a temporary disk file created through execution of the Maintenance Report Extract program, CLASSM. It contains labor transactions, read from the Labor Transaction History File, which have been reformatted for processing by the Maintenance Report Generator program, MIM200. Only transactions for the report period are included. This file is deleted upon termination of the R/C System run.

File and record specifications are given in Tables 6.13-1 and 6.13-2.

TABLE 6.13-1

## R/C SYSTEM FILE SPECIFICATION

FILE NAME: Labor Hours Extract FileDATA SET NAME: &LABORNUMBER OF RECORD FORMATS: 1      RECORD SIZE: 80 CharactersFILE ORGANIZATION: Sequenced by Processing DateRECORD FORMATS

<u>FORMAT CODE</u>	<u>RECORD NAME</u>	<u>MAX. NO.</u>	<u>MIN. NO.</u>
	Labor Extract Record	U	1

PROGRAM USE

<u>PROGRAM IDENT.</u>	<u>PROGRAM NAME</u>	<u>I/O</u>	<u>PROGRAM COBOL NAME FOR FILE</u>
CLASSM	Maintenance Report Extract	W	OUTPUT-DATA
MIM200	Maintenance Report	R	INPUT-DATA

TABLE 6.13-2

## RECORD SPECIFICATION

RECORD NAME: Labor Extract Record

FILE NAME: Labor Hours Extract File

COBOL NAME OF RECORD: M-OUTPUT-RECORD

RECORD FORMAT CODE: None

RECORD LENGTH: 80 Characters

<u>FIELD POS.</u>	<u>FIELD LENG.</u>	<u>FORMAT</u>	<u>COBOL FIELD NAME</u>	<u>FIELD DESCRIPTION</u>
1	2	99	OUTPUT-REPORT-CODE	Report Code
3	4	X(4)	OUTPUT-DATA-CLASS	See Note 1
7	6	9(6)	OUTPUT-DATE	Transaction Date (YYMMDD)
13	<u>68</u>	X(68)	FILLER	See Note 2
TOTAL	80			

Note 1: OUTPUT-DATA-CLASS contains the values classifying the transaction for reporting purpose. The first two characters specify the report line; the last two characters specify the report column.

Note 2: This field contains the data elements specified for character positions 29 through 96 of the Labor Distribution Record (see Table 6.1-12).

#### 6.14 Labor Cost Extract File (&LBCOST)

The Labor Cost Extract File is a temporary disk file created through execution of the Labor Cost File Extract program, RE300. It contains records of labor charges by vehicle number and group code. These records are extracted from the Labor Transaction History File (see Section 6.1). This temporary file is deleted upon completion of the R/C System run.

File and record specifications are given in Tables 6.14-1 and 6.14-2.

TABLE 6.14-1

## R/C SYSTEM FILE SPECIFICATION

FILE NAME: Labor Cost Extract FileDATA SET NAME: &LBCOSTNUMBER OF RECORD FORMATS: 1      RECORD SIZE: 18 CharactersFILE ORGANIZATION: Sequenced by Vehicle Number  
Group CodeRECORD FORMATS

<u>FORMAT CODE</u>	<u>RECORD NAME</u>	<u>MAX. NO.</u>	<u>MIN. NO.</u>
1	Labor Cost Record	U	Ø

PROGRAM USE

<u>PROGRAM IDENT.</u>	<u>PROGRAM NAME</u>	<u>I/O</u>	<u>PROGRAM COBOL NAME FOR FILE</u>
RE300	Labor Cost File Extract	W	OSORT-FILE
RP080	Bus Repair Cost Report Gnerator	R	PLABR-FILE

TABLE 6.14-2

## RECORD SPECIFICATION

RECORD NAME: Labor Cost Record

FILE NAME: Labor Cost Extract File

COBOL NAME OF RECORD: OSORT-REC

RECORD FORMAT CODE: 1

RECORD LENGTH: 18 Characters

<u>FIELD POS.</u>	<u>FIELD LENG.</u>	<u>FORMAT</u>	<u>COBOL FIELD NAME</u>	<u>FIELD DESCRIPTION</u>
1	1	9	WS-SET12	Format Code (=1)
2	4	9(4)	WS-VEH-NO2	Vehicle Number
6	2	XX	WS-GROUP-CODE	Group Code
8	1	9	WS-NEW-CODE2	=2
9	<u>10</u>	S9(6)V9(4)	WS-VALUE2	Labor Cost of Work Per- formed
TOTAL	18			



#### 6.15 Materials Cost Extract File (&PTCOST)

The Materials Cost Extract File is a temporary disk file created through execution of the Materials Cost File Extract program, RE200. It contains records of the cost of materials issued for vehicle repair. The records are extracted from the SIMS Inventory Transaction History File (see Section 6.2). This temporary file is deleted upon completion of the R/C System run.

File and record specifications are given in Tables 6.15-1 and 6.15-2.

TABLE 6.15-1

## R/C SYSTEM FILE SPECIFICATION

FILE NAME: Materials Cost Extract FileDATA SET NAME: &PTCOSTNUMBER OF RECORD FORMATS: 1RECORD SIZE: 18 CharactersFILE ORGANIZATION: Sequenced by: Vehicle Number  
Inventory Class CodeRECORD FORMATS

<u>FORMAT CODE</u>	<u>RECORD NAME</u>	<u>MAX. NO.</u>	<u>MIN. NO.</u>
1	Parts Cost Record	U	Ø

PROGRAM USE

<u>PROGRAM IDENT.</u>	<u>PROGRAM NAME</u>	<u>I/O</u>	<u>PROGRAM COBOL NAME FOR FILE</u>
RE200	Materials Cost File Extract	W	OSORT-FILE
RP080	Bus Repair Cost Report Generator	R	PTRAN-FILE

TABLE 6.15-2

## RECORD SPECIFICATION

RECORD NAME: Parts Cost Record

FILE NAME: Materials Cost Extract File

COBOL NAME OF RECORD: OSORT-RECORD

RECORD FORMAT CODE: 1

RECORD LENGTH: 18 Characters

<u>FIELD POS.</u>	<u>FIELD LENG.</u>	<u>FORMAT</u>	<u>COBOL FIELD NAME</u>	<u>FIELD DESCRIPTION</u>
1	1	9	WS-SET11	Format Code (=1)
2	4	9(4)	WS-VEH-NO1	Vehicle Number
6	2	99	WS-CLASS-CODE	Inventory Class Code
8	1	9	WS-NEW-CODE1	Parts Cost Record Identifier
9	<u>10</u>	S9(6)V9(4)	WS-VALUE1	Cost of Part
TOTAL	18			

#### 6.16 Vehicle Extract File (&BUSLST)

The Vehicle Extract File is a temporary disk file created through execution of the Vehicle File Extract Program (RE100). It contains one record for each vehicle on the Vehicle Master File (see Section 6.3). The records contain information necessary to execute the Bus Repair Cost Report Generator program. This file is deleted upon termination of the R/C System run.

File and record specifications are given in Tables 6.16-1 through 6.16-3.

TABLE 6.16-1

## R/C SYSTEM FILE SPECIFICATION

FILE NAME: Vehicle Extract FileDATA SET NAME: &BUSLSTNUMBER OF RECORD FORMATS: 2      RECORD SIZE: 18 CharactersFILE ORGANIZATION: Records are sequenced by vehicle number.RECORD FORMATS

<u>FORMAT CODE</u>	<u>RECORD NAME</u>	<u>MAX. NO.</u>	<u>MIN. NO.</u>
23	Report Period Specification	1	Ø
1	Vehicle Record	U	Ø

PROGRAM USE

<u>PROGRAM IDENT.</u>	<u>PROGRAM NAME</u>	<u>I/O</u>	<u>PROGRAM COBOL NAME FOR FILE</u>
RE100	Vehicle File Extract	W	PMSTR-FILE
RE200	Materials Cost File Extract	R	PMSTR-FILE
RE300	Labor Cost File Extract	R	PMSTR-FILE
RP080	Bus Repair Cost Report Generator	R	PMSTR-FILE

TABLE 6.16-2  
RECORD SPECIFICATION

RECORD NAME: Report Period Specification Record

FILE NAME: Vehicle Extract File

COBOL NAME OF RECORD: WS-CARD-RECORD

RECORD FORMAT CODE: 23

RECORD LENGTH: 18 Characters

<u>FIELD POS.</u>	<u>FIELD LENG.</u>	<u>FORMAT</u>	<u>COBOL FIELD NAME</u>	<u>FIELD DESCRIPTION</u>
1	2	XX	WS-REQ-CODE	Format Code(=23)
3	6	9(6)	IC-DATE-MIN	Beginning Date for Report Period (YYMMDD)
9	1	1	FILLER	
10	6	9(6)	IC-DATE-MAX	Ending Date for Report Period (YYMMDD)
16	<u>3</u>	XXX	FILLER	
TOTAL	18			

Note: This record is always the first record on the Vehicle Extract File.

TABLE 6.16-3

## RECORD SPECIFICATION

RECORD NAME: Vehicle RecordFILE NAME: Vehicle Extract FileCOBOL NAME OF RECORD: PMSTR-RECORDRECORD FORMAT CODE: 1RECORD LENGTH: 18 Characters

<u>FIELD POS.</u>	<u>FIELD LENG.</u>	<u>FORMAT</u>	<u>COBOL FIELD NAME</u>	<u>FIELD DESCRIPTION</u>
1	1	9	WS-SET1	Format Code (=1)
2	4	9(4)	WS-BUS-NO	Vehicle Number
6	3	9(3)	FILLER	
9	2	XX	WS-DIV-NO	Division Number
11	5	S9(5)	WS-PERIOD-MILES	Vehicle Miles for Report Period
16	2	XX	WS-FLEET-NBR	Fleet Number
18	<u>1</u>	X	FILLER	
TOTAL	18			





## 7.0 PROGRAM DESCRIPTIONS

This section describes the individual programs that are referenced in the System Procedures section (Section 5.0). The source listings of these programs are contained in Supplement I to this document.

The programs included in the SIMS Repair Cost System are listed in Table 7.0-1 in terms of program identification, program name, and the subsection that describes the program. The description of a program includes:

- (a) Introduction,
- (b) Program Flowchart
- (c) System Interfaces,
- (d) Program Files,
- (e) Processing Functions, and
- (f) Error Messages.

The Data Acceptance programs and the Labor Transaction History File Edit/Update program are described in more detail than the file extract and report generator programs. The report generator programs use the COBOL report writer and descriptions of these programs include user report formats. At the top of the illustration of each report format are rows of numbers indicating the print positions.

TABLE 7.0-1  
INDEX OF REPAIR COST SYSTEM PROGRAMS

<u>Subsection Number</u>	<u>Program Identification</u>	<u>Program Name</u>
7.1	DA500A	Data Acceptance - ACTD
7.2	DA500D	Data Acceptance - DTS
7.3	DG500	Labor Transaction History File Edit/Update
7.4	CLASSM	Maintenance Report Extract
7.5	MLM200	Maintenance Report Generator
7.6	RE100	Vehicle File Extract
7.7	RE200	Materials Cost File Extract
7.8	RE300	Labor Cost File Extract
7.9	RP080	Bus Repair Cost Report Generator
7.10	EMP100	DTS Employee File Extract

## 7.1 DA500A - Data Acceptance (ACTD)

The ACTD Data Acceptance program is designed to reformat maintenance labor distribution records for further processing by the SIMS Repair Cost System. Basic edit functions are performed to eliminate transactions with gross errors. The reformatting procedure consists of adding a 16-character prefix and a 24-character suffix. The prefix constitutes a sort key that may be used to sort the data. The suffix provides for the addition of information not currently entered in the system.

### 7.1.1 System Interfaces

Figure 7.1-1 is a program flowchart. The Data Acceptance program input consists of the ACTD Labor Transaction File, AC.TIME.CARDS, read from magnetic tape.

Program output consists of a report of erroneous transactions, and a file of reformatted labor transactions. This file, &RPCTRAN, is a temporary disk file. It is used as input to the Labor Transaction History File Edit/Update program, DG500.

### 7.1.2 Program Files

No internal file is created during program execution.

### 7.1.3 Processing Functions

As illustrated in Figure 7.1-1, the program reads the ACTD Labor Transaction File from magnetic tape. The file contains 80-character records that have been copied to magnetic tape from cards. Each

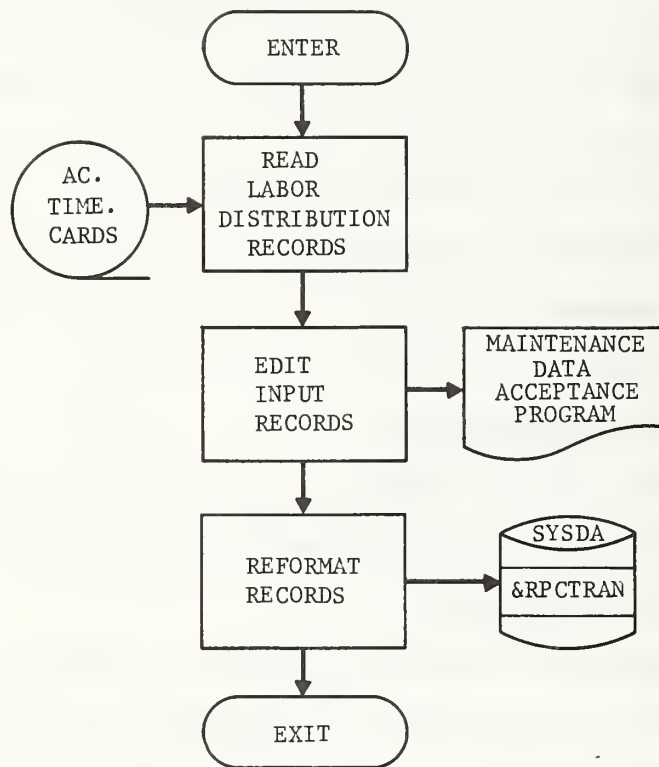


FIGURE 7.1-1  
DA500 PROGRAM FLOWCHART

transaction is edited to eliminate those with gross errors. The edit criteria are:

- (a) the employee number must be numeric,
- (b) the transaction date must be numeric, and
- (c) character position ten (10) of the 80-character record must not be equal to '- '.

Transactions that fail any of the edit tests are rejected. They are displayed on an edit list with an asterisk under the fields in error.

Transactions that pass the edit criteria are reformatted for processing by the edit/update program, DG500. A 16-character sort key is added consisting of processing date, transaction date, and employee number. A 24-character suffix is added consisting of a filler field of zeros. This field is not currently used in the Repair Cost System.

When all transactions have been processed, program execution terminates.

#### 7.1.4 Error Messages

The Data Acceptance program produces no error message.

#### 7.1.5 Remarks

If no valid input transactions are found, the program assumes that an error has occurred. A system return code of eight (8) is produced, which cancels further system processing. An indicative message is printed when this error occurs.

## 7.2 DA500D - Data Acceptance (DTS)

The DTS Data Acceptance program is designed to reformat maintenance labor distribution records for further processing by the SIMS Repair Cost System. Basic edit functions are performed to eliminate transactions that contain gross errors. The reformatting consists of adding the hourly pay rate and organization code to the transaction and creating a 16-character prefix and a 24-character suffix. The prefix constitutes a sort key; the suffix provides for the addition of information not currently entered in the system.

### 7.2.1 System Interfaces

Figure 7.2-1 is a program flowchart. Program input consists of:

- (a) DTS Labor Transaction File, DTS.TIME.CARDS.
- (b) Employee Master File, CN1510.RPC.M.EMPFILE, created through the execution of the DTS Employee File Extract program, EMP100.

Program output consists of a print file and the Temporary Labor Transaction File, &RPCTRAN. The latter is input to the Labor Transaction History File Edit/Update program, DG500.

### 7.2.2 Program Files

No program file, other than the print file, is created during execution.

### 7.2.3 Processing Functions

As illustrated in Figure 7.2-1, the program reads two input data sets. The contents of the Employee Master File are used to create a table in working storage. This table is organized by employee number

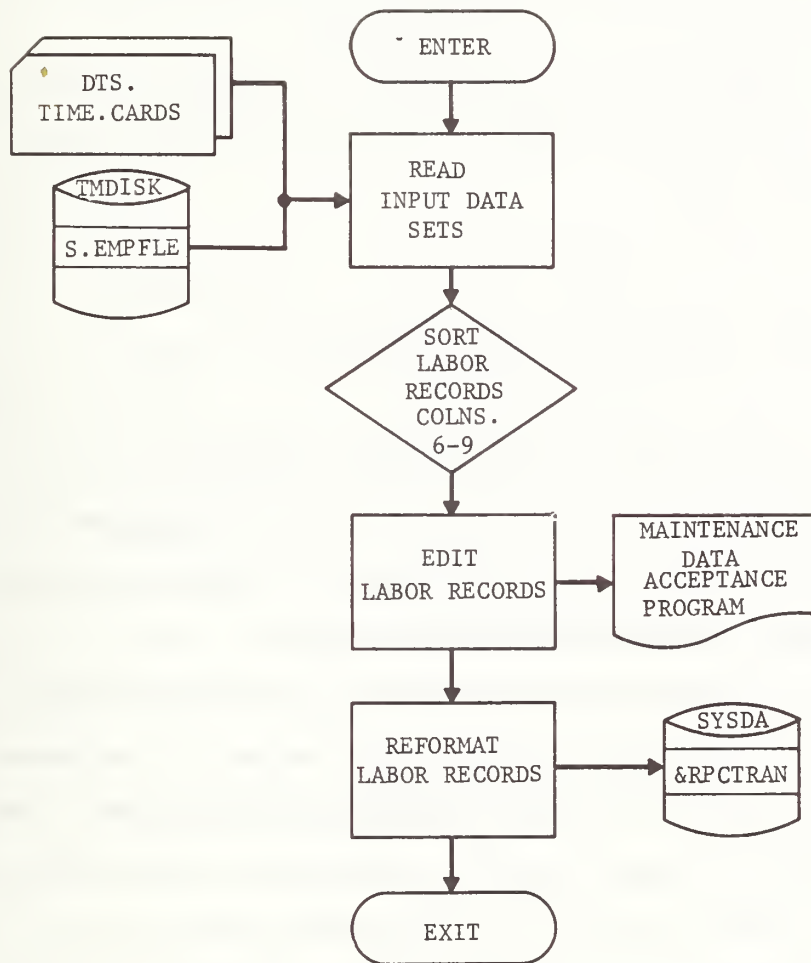


FIGURE 7.2-1  
DA500D PROGRAM FLOWCHART

and contains the employee's hourly pay rate and a code identifying the organizational unit to which he is assigned.

The DTS Labor Transaction File records are sorted by employee number. The sorted records are edited to eliminate gross errors.

The edit criteria are:

- (a) The employee number must be numeric.
- (b) The transaction date must be numeric.
- (c) Transit identification code must be equal to 'T'.
- (d) If the exception pay code is equal to '-', the hourly pay rate must be included in the input record.

Transactions that fail the edit tests are rejected. They are displayed on the Data Acceptance Edit List. An asterisk is printed under the low order byte of the fields in error.

Transactions that pass the edit tests are reformatted for processing by the edit/update program, DG500. During this processing step, input values are converted and additional information is obtained from the table in working storage. Reformatting includes the addition of a 16-character sort key and of a 24-character suffix, which is zero-filled. The suffix is not currently used in the Repair Cost System.

Other processing functions performed during the creation of the output record, LC-TRAN-RECORD, are:

- (a) Values of straight-time hours and overtime hours are added to obtain hours worked (regular hours) and premium cost equivalent hours (premium hours) are calculated. Premium hours represent the overtime premium cost in terms of straight-time hours.



- (b) The employee table is searched and hourly pay rate and organization code are obtained.
- (c) A dummy sub-account number, 40, is moved to the Sub-Account Number field, if the input record does not contain a valid value in the premium pay code field, DTS-BONUS-CODE.

The reformatted records are written out to the Temporary Labor Transaction File, &RPCTRAN.

#### 7.2.4 Error Messages

If the program is executed without any input records, the following message is printed:

'NO DISTRIBUTION CARDS FOUND'.

#### 7.2.5 Remarks

The employee table can contain entries for up to 300 employees. If a labor distribution record is rejected because of an invalid employee number, the following message is printed on the edit list under the transaction:

'EMPLOYEE NUMBER NOT IN PAYROLL FILE'.

### 7.3 DG500A (ACTD) and DG500D (DTS) - Labor Transaction History File Edit/Update

Labor Transaction History File Edit/Update program reads a file of input transactions and uses them to update the Labor Transaction History File, CN1510.RPC.M.TRANHIST. Edit functions are performed against each transaction. Those that fail the edit tests are rejected and displayed on an edit list. Valid transactions are passed to the new version of the Labor Transaction History File being created.

#### 7.3.1 System Interfaces

Figure 7.3-1 is a program flowchart. Program input consists of the Temporary Labor Transaction File, &RPCTRAN, produced by the Data Acceptance program, DA500, and the current version of the Labor Transaction History File, CN1510.RPC.M.TRANHIST(0).

Program output consists of an edit report of erroneous transactions, and an updated version of the Labor Transaction History File, CN1510.RPC.M.TRANHIST(+1). The Labor Transaction History File is a generation data set. Three versions of this file are saved by the system at all times.

#### 7.3.2 Program Files

The Labor Transaction History File Edit/Update program creates no internal file during execution.

#### 7.3.3 Processing Functions

As illustrated in Figure 7.3-1, the program copies the current version of the Labor Transaction History File to the updated version. When this process is completed, the Temporary Labor Transaction file

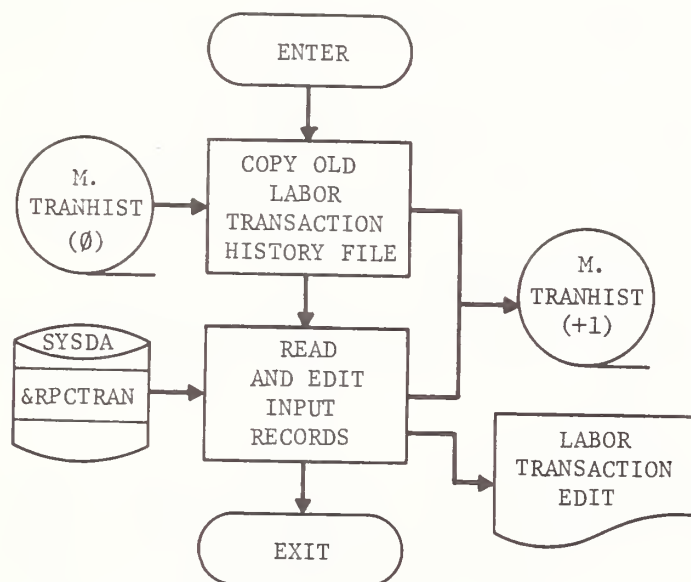


FIGURE 7.3-1  
DG500 PROGRAM FLOWCHART

is read. Each transaction is edited against a list of criteria. Table 7.3-1 lists these edit criteria for ACTD transactions, and Table 7.3-4 lists the criteria for DTS transactions.

A transaction that passes all edit tests is output to the new version of the Labor Transaction History File. Erroneous transactions are displayed on the transaction edit report.

Program execution terminates when all input transactions have been processed.

#### 7.3.4 Error Messages

The Labor Transaction History File Edit/Update program produces no error message.

#### 7.3.5 Remarks

Two versions of the program currently exist, DG500A for (ACTD) and DG500D for (DTS). Different versions were necessary because of differences in valid account numbers used by the properties, and in edit criteria. The basic processing functions are the same.

TABLE 7.3-1

## DG500A EDIT CRITERIA (ACTD)

<u>Transaction Type</u>	<u>Edit Function</u>
Labor Distribution Record	<p>The hour modifier code must be spaces or '-'.  The work shift must be spaces, 1, or 2.  The hours worked field must be numeric.  The premium hours worked must be spaces or numeric.  The group-unit code must be spaces or numeric.  The organization code must be one of these values: 12, 13, 14, 25, 26, or 28.  If the work-reason code is 00, set to 01.  The work-reason code must be a valid combination. See Table 7.3-2 for a listing of valid codes.  Employee number must be numeric.  The employee pay rate must be numeric.  If the work order control field equals '-', move spaces to the work order control field. Also, the work order must be numeric.  The account number must be a valid account number. Table 7.3-3 lists valid account numbers for ACTD.  The division code must be spaces, 0, 2, 3, or 4.</p>

TABLE 7.3-1 (Concluded)

<u>Transaction Type</u>	<u>Edit Function</u>
	The vehicle number must be spaces or numeric.
	The fleet code must be spaces or equal to six (6).
	The transaction date must be valid as follows:
	(a) numeric,
	(b) year must be non-zero,
	(c) day between 1 and 31, and
	(d) month between 1 and 12.

TABLE 7.3-2

## VALID WORK-REASON CODES

<u>Work-Reason Code</u>	<u>Description</u>
Spaces	Work reason not applicable
01	Inspection scheduled on the basis of miles traveled by the vehicle since the last inspection
03	Inspection performed as a direct result of a maintenance management decision
07	Inspection performed after a vehicle is involved in an accident to ascertain required repair work
10	Repairs performed to correct a fault detected during an inspection
12	Repairs performed because a malfunction was reported by the operator
13	Repairs performed as a direct result of a maintenance management decision
14	Repairs performed at a maintenance facility to correct a defect which resulted in a road call
15	Modification of a component in place on the vehicle, performed under a campaign or capital improvement program
16	Repairs performed due to vandalism
17	Repairs performed due to accident
18	Repairs performed to correct a fault detected during servicing
20	Rebuild work performed on a component removed to correct a fault detected during inspection
21	Rebuild work performed on a component removed on the basis of miles traveled by the vehicle since the component was installed.

TABLE 7.3-2 (Continued)

<u>Work-Reason Code</u>	<u>Description</u>
22	Rebuild work performed on a component removed to correct a malfunction reported by the operator
23	Rebuild work performed on a component removed as a direct result of a maintenance management decision
24	Rebuild work performed on a component removed to correct a defect that resulted in a road call
25	Rebuild work performed to modify a component
26	Rebuild work performed on a component removed as the result of vandalism
27	Rebuild work performed on a component removed as the result of an accident
28	Rebuild work performed on a component removed to correct a fault detected during servicing
30	Replacement of a component to correct a fault detected during inspection
31	Replacement of a component on the basis of the miles traveled by the vehicle since the component was installed
32	Replacement of a component because a malfunction was reported by the operator
33	Replacement of a component as a direct result of a maintenance management decision
34	Replacement of a component to correct a defect which resulted in a road call



TABLE 7.3-2 (Continued)

<u>Work-Reason Code</u>	<u>Description</u>
35	Replacement of a component, performed under a campaign or capital improvement program
36	Replacement of a component as a result of vandalism
37	Replacement of a component as a result of an accident
38	Replacement of a component to a correct a fault detected during servicing
43	Installation of a component as a direct result of a maintenance management decision
45	Installation of a component, performed under a campaign or capital improvement program
54	Road call required for reasons other than vandalism or an accident
56	Road call required because of vandalism
57	Road call required because of an accident
60	Work, to correct a fault detected during an inspection, found to be unnecessary
62	Work, to correct a malfunction reported by an operator, found to be unnecessary
63	Work, required as a direct result of a maintenance management decision, found to be unnecessary
64	Work, required to correct a defect which resulted in a road call, found to be unnecessary

TABLE 7.3-2 (Concluded)

<u>Work-Reason Code</u>	<u>Description</u>
67	Worked, required as the result of an accident, found to be unnecessary
68	Work, required to correct a fault detected during servicing, found to be unnecessary

TABLE 7.3-3  
ACTD VALID ACCOUNT NUMBERS

<u>Account Number</u>	<u>Sub-Account Number</u>	<u>Account Title</u>
4110	00	Supervision of Shop and Garage - Salaries and Expenses
4121	00	Repairs to Shop and Garage Equipment
4121	01	Repairs to Data Collectors
4122	00	Operation and Maintenance of Service Equipment
4128	00	Repairs to Shop and Garage Buildings and Grounds
4132	00	Other Shop and Garage Expenses
4140	00	Parts for Revenue Equipment Repair
4141	00	Repairs to Revenue Equipment - Labor and Materials
4142	00	Repairs to Bus Air Conditioning Equipment Labor and Materials
4144	00	Repairs to Revenue Equipment - Accident
4145	00	Repairs to Fare Boxes
4150	00	Servicing Revenue Equipment - Labor and Materials
4210	00	Supervision of Transportation - Salaries and Expenses
4264	01	Other Transportation Expenses
4264	02	Maintenance of Radio Equipment and District Communication Systems
4311	00	San Francisco Terminal and Other Station Expense - Salaries and Commissions
4314	00	San Francisco Terminal and Other Station Expense - Supplies and Expenses

TABLE 7.3-3 (Continued)

<u>Account Number</u>	<u>Sub-Account Number</u>	<u>Account Title</u>
4319	00	San Francisco Terminal and Other Station Expense - Repairs to Buildings and Equip- ment
4420	00	Special Service Bureau - Charter
4470	00	Public Information and Advertising Expense
4510	00	Salaries and Expenses - Safety Department
4516	00	Automobile Expense - Claim Department
4634	00	Other General Office Expense
4652	02	Employee Injury on Duty - Remainder of Day
4562	03	Employee Injury on Duty - Waiting Period
4652	04	Employee Sick Leave
4652	08	Employee Sick Leave - Remainder of Day
4655	02	Purchasing Expense
4656	02	Other General Expenses
4656	03	Voting Time
4656	04	Jury Pay
4656	05	Funeral Leave
4656	06	Military Leave
1131	00	Miscellaneous Accounts Receivable
1291	00	Unfinished Construction
1803	10	Demonstration Grant - Computer Project - Receivable from U.S. Government
1803	11	Capital Grant - Buses and Radios - Receivable from U.S. Government

TABLE 7.3-3 (Concluded)

<u>Account Number</u>	<u>Sub-Account Number</u>	<u>Account Title</u>
Memorandum accounts:		
2072	01	Vacations Paid - Earned Prior Year
2072	02	Vacations Paid - Earned Current Year
4998	00	Holiday Pay on Employee's Non-worked Days
4999	00	Holiday Not Worked

Note: Sub-Account Number '00' is a dummy sub-account added to the transaction during keypunching.

TABLE 7.3-4

## DG500D EDIT CRITERIA (DTS)

<u>Transaction Type</u>	<u>Edit Function</u>
Labor Distribution Record	<p>The hour modifier code must be spaces or '-'.  The hours worked field must be numeric.  The premium hours worked must be spaces or numeric.  The group-unit code must be spaces or numeric.  The organization code must be one of these values: 11, 12, 25, or 26.  If the work reason code is 00, set to 01.  The work-reason code must be a valid combination. See Table 7.3-2 for a listing of valid codes.  Employee number must be numeric.  The employee pay rate must be numeric.  Either the work order field or the account field must be numeric, but not both.  If the account number is numeric, it must be a valid number. Table 7.3-5 lists DTS valid accounts.  The vehicle number must be spaces or numeric.  The transaction date must be valid as follows:</p> <ul style="list-style-type: none"> <li>(a) numeric,</li> <li>(b) year must be non-zero,</li> <li>(c) day between 1 and 31, and</li> <li>(d) month between 1 and 12.</li> </ul>

TABLE 7.3-5  
DTS VALID ACCOUNT NUMBERS

<u>Account Number</u>	<u>Sub-Account Number</u>	<u>Account Title</u>
4150	40	Inspecting of Revenue Equipment
4151	40	Cleaning of Revenue Equipment
4152	40	Service Station Labor
4153	40	Storeroom Labor and Expenses
4140	40	Maintenance of Bodies
4141	40	Repairs Due to Accidents
4142	40	Repainting Buses
4143	40	Maintenance of Chassis
4144	40	Maintenance of Brakes
4145	40	Maintenance of Engines
4146	40	Maintenance of Clutch and Transmission
4147		Maintenance of Motor Coaches
	40	- Miscellaneous
	05	- Military Leave
	23	- Holiday Pay
	25	- Sick Pay
	26	- Death-in-family Leave
	27	- Jury Duty
	12	- Vacation

TABLE 7.3-5 (Continued)

<u>Account Number</u>	<u>Sub-Account Number</u>	<u>Account Title</u>
4148	40	Repairs Due to Vandalism
4175		Inspecting, Cleaning, and Servicing of Motor Coaches
	40	- Miscellaneous
	05	- Military Leave
	23	- Holiday Pay
	25	- Sick Pay
	26	- Death-in-family Leave
	27	- Jury Duty
	12	- Vacation
4174		Maintenance and Servicing Bus Air Conditioning Equipment
	40	- Maintenance and Servicing
	05	- Military Leave
	23	- Holiday Pay
	25	- Sick Pay
	26	- Death-in-family Leave
	27	- Jury Duty
	12	- Vacation
4110	40	Supervision of Shop and Garage
4121	40	Repairs to Shop and Garage Equipment
4122	40	Operation and Maintenance of Service Equipment
4128	40	Repairs to Shop and Garage Buildings and Grounds



TABLE 7.3-5 (Continued)

<u>Account Number</u>	<u>Sub-Account Number</u>	<u>Account Title</u>
4132	40	Other Shop and Garage Expense
4161	40	Maintenance and Servicing Tires
4173	40	Maintenance and Servicing Air Conditioning Equipment
4211	40	Supervision of Transportation - General
4213	40	Line Supervision
4214	40	Superintendence - Oak Cliff Division
4215	40	Superintendence - East Dallas Division
4216	40	Barn Cashiers
4218	40	Chartered Coach Dept. - Salaries and Expenses
4219	40	Research Dept. - Salaries and Expenses
4264	40	Other Transportation Expenses
4268	40	Maintenance - Transp. Bldgs. & Structures
4510	40	Safety Department Expense
4530	40	Investigations - Claim Agents
4532	40	Miscellaneous Claim Agents Expense
4612	40	Expenses of General Officers
4615	40	Expenses of Employee Services
4630	40	General Office Supplies and Expense
4631	40	General Office Building - Maintenance
4632	40	General Office Building - Operation
4656	40	Other General Expense

TABLE 7.3-5 (Concluded)

<u>Account Number</u>	<u>Sub-Account Number</u>	<u>Account Title</u>
0000	40	(Provided for non-revenue vehicles not assigned to a specific department)

Note: Sub-Account Number '40' is a dummy sub-account added to the transaction during processing.

#### 7.4 CLASSM - Maintenance Report Extract

The Maintenance Report Extract program (CLASSM) is designed to classify labor distribution records for reporting purposes. Each record includes one or more fields that identify the labor transaction. It can be identified by variables such as account number, work order number, vehicle number, group-unit code, type of work code, and reason code. The identifying variables in the input record are compared to valid combinations of these variables. Each valid combination forms part of a line entry in a table stored as the Maintenance Report Classification File. The remainder of the line entry is the report classification in which the transaction is to be included. The report classification is added to the labor distribution record in the form of a prefix. The augmented records are written to a temporary disk file to be used by the report generator program.

##### 7.4.1 System Interfaces

Figure 7.4-1 is a program flowchart. As illustrated, input consists of:

- (a) Report Request File, CN1510.RPC.S.DATEFILE. This data set is created through execution of the Vehicle File Extract program, RE100.
- (b) Maintenance Report Classification File, MCLASS. This data set contains the report classification table. It is created initially (and updated) through card input, which is copied to disk storage through the execution of the utility program, IEBGENER.
- (c) Labor Transaction History File, CN1510.RPC.M.TRANHIST( ). This file is a generation date set, maintained by the Labor Transaction History File Edit/Update program, DG500.

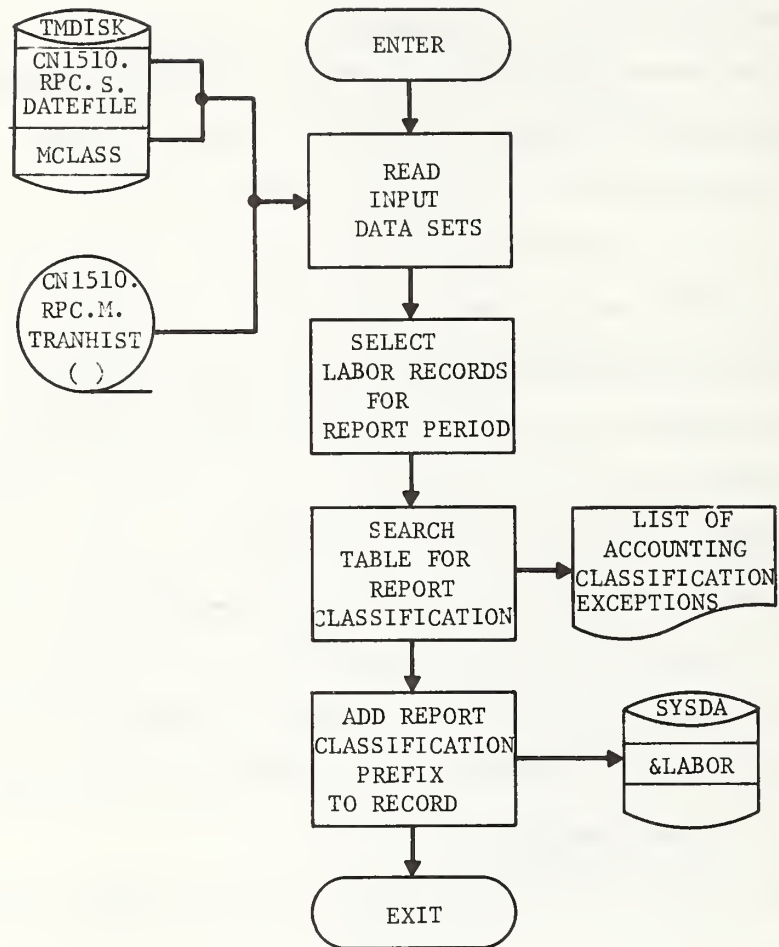


FIGURE 7.4-1  
CLASSM PROGRAM FLOWCHART

Output consists of a temporary disk file, the Labor Hours Extract File, &LABOR, and of an edit report, List of Accounting Classification Exceptions. The output file is used by the Maintenance Report Generator program, MLM200.

#### 7.4.2 Program Files

No file, other than print files, is created and used within the program.

#### 7.4.3 Processing Functions

As illustrated in Figure 7.4-1, the input data sets are read. The records in the Report Request File provide report control and specify the period for which reports are to be generated.

Based on the report date specified, labor distribution records are extracted from the Labor Transaction History File. The organization code in each selected record is checked against values specified in the program. As these values are included in program instructions, there are two versions of the program, one for each property at which the system has been implemented.

For each record, the report classification table is searched.

If the variables that identify the transaction cannot be matched against any record in the table or the transaction contains a invalid organization code, the transaction is rejected. The rejected transaction record is displayed on the report, List of Accounting Classification Exceptions.

If the transaction matches a record in the table, the output record (see Table 6.13-2) is created:

- (a) a prefix, containing the report code and the report classification code and date of the transaction, is created. The report code is obtained from the input date record. The report classification code is obtained from the table. It identifies the paragraph, and line within the paragraph of the report in which the transaction is to be included.
- (b) the remainder of the output record consists of the fields contained in character positions 29-96 of the Labor Distribution Record (see Section 6.1). Information not required by the report generator program is thus eliminated.

The output record is written out to a temporary disk file (&LABOR) for processing by the report generator program.

#### 7.4.4 Error Messages

If an error is detected, program execution is terminated and an appropriate error message printed. A return code of six (6) is generated which causes the system to bypass execution of the report generator program. Other programs that may be executed subsequent to these programs are not affected by this return code. The error conditions and their associated messages are:

- (a) If no report request record is found, the following message is printed:  

'CLASSM-0100 - NO DATE RECORD FOUND'.
- (b) If the report classification table contains more than 500 records, the following message is printed:  

'CLASSM-0300 - NO TRANSACTIONS FOUND FOR REPORT PERIOD'.

#### 7.4.5 Remarks

Organization codes are program values. As these values are different between properties, two versions of the program are available, one for each of the two properties at which the system has been installed.

## 7.5 MLM200 - Maintenance Report Generator

The Maintenance Report Generator program (MLM200) is designed to generate two monthly maintenance labor reports. These are:

- (a) Hourly Maintenance Labor Utilization: The format of the report is shown in Figure 7.5-1. The report displays the distribution of maintenance labor hours among work categories, for each maintenance organizational unit and in total. It also displays hours incurred for non-work categories, such as vacation, holidays, and sick time.
- (b) Maintenance Labor Costs: The format of the report is shown in Figure 7.5-2. The hours reported on the Hourly Maintenance Labor Utilization report are displayed in terms of cost. Also, total costs are displayed in terms of cents per mile.

The program has been designed in a manner that permits the generation of other maintenance reports, as yet unspecified with only minor modifications to the current version of the program. Also, the program is designed to use a separate employee file if employee pay rates are not included in the input file or the report control file.

### 7.5.1 System Interfaces

Figure 7.5-3 is a program flowchart. As illustrated, input consists of:

- (a) Labor Hours Extract File, &LABOR. This data set is a temporary disk file created by the Maintenance Report Extract program, CLASSM. It contains the labor distribution records for the report period. Each record has been identified in terms of report classification.
- (b) Report Request File, CN1510.RPC.S.DATEFILE. This data set is created through the execution of the Vehicle File Extract program, RE100. Each record within the file contains a report code, report date, and the total system miles for the report month.







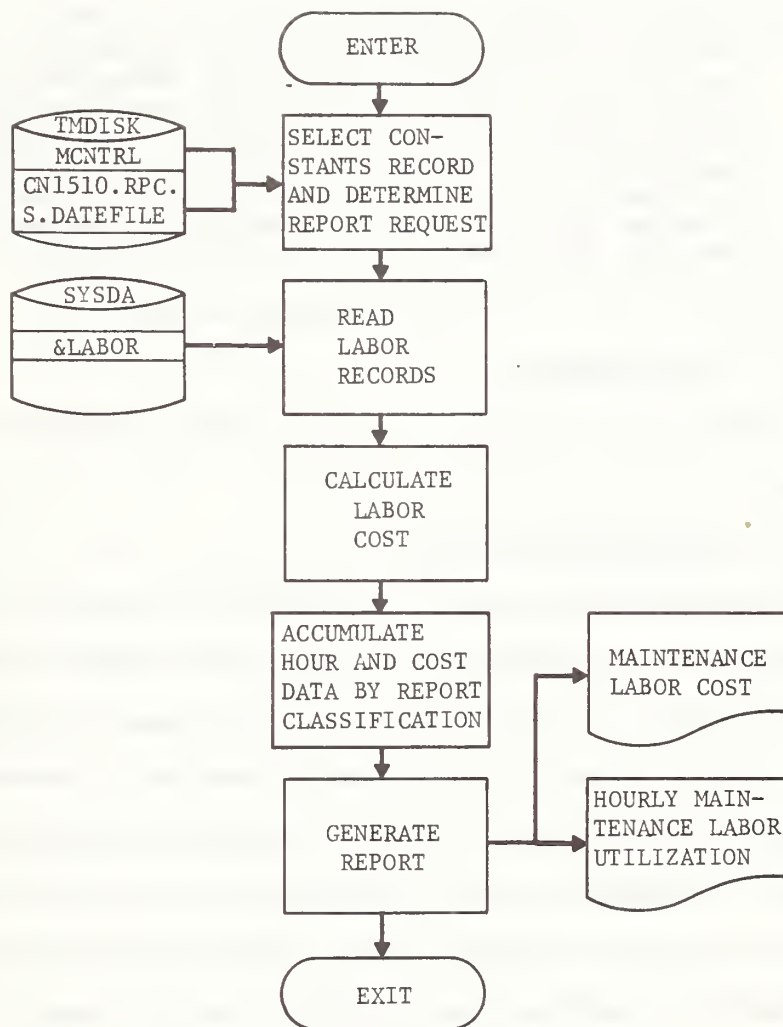


FIGURE 7.5-3  
MIM200 PROGRAM FLOWCHART

- (c) Maintenance Report Generator Control File, MCNTRL. This data set is created initially (and updated) through card input which is copied to disk storage through the execution of the utility program, IEBGENER. The file contains constants records. Each record contains parameters necessary to the generation of a report and is specific to the user property. For example, it contains the overtime factor--that is, the relationship between the straight-time pay rate and the overtime pay rate. The file is defined in Section 6.8.

Output consists of the reports, referenced above.

#### 7.5.2 Program Files

No file, other than print files, are created and used within the program.

#### 7.5.3 Processing Functions

As illustrated in Figure 7.5-3, the Report Request File and the Maintenance Report Generator Control File are read. The report date and total system miles for the report period are obtained from the former. The constants record applicable to the user is selected from the control file and placed in working storage for use during the program. This record contains parameters used to control the accumulation and calculation of labor hours and costs, and organization codes used to classify the data in terms of report columns.

The labor distribution records are read in. Each record contains a code indicating the report line classification in which transaction data is to be included.

Using the labor hours data in the input record and the hourly pay rate, the cost of the maintenance labor transaction is calculated.

The hourly rate is obtained from one of the following sources:

- (a) the input transaction itself. As the system is currently implemented, this is the data source.
- (b) the constants record. This is the source if a single average hourly rate is applied.
- (c) an employee table. The creation of an employee table, specifying individual pay rates is an alternative to the inclusion of the rate in the input record. This alternative has not been implemented.

For each cost calculation, a single algorithm is used. This single algorithm contains two parts. Only one part is applied in any one calculation. The choice of the part used depends on the nature of the hours data entered and the values in the constants record.

For example, at one property overtime hours entered represent actual hours worked. At another, overtime hours are entered in terms of straight-time pay hours. The user sets the overtime applicability factor in the constants record to indicate how the overtime cost algorithm is to be applied.

After calculations are completed, hourly and cost data are accumulated by report classifications. For this purpose, the report classification is defined by the line and the column of the report. When data aggregation is complete, the reports are generated.

#### 7.5.4 Error Messages

If the report request record is not found or is invalid, program execution is terminated and the following message is printed:

'MLM200-0300 - NO DATE RECORD FOUND'.

#### 7.5.5 Remarks

Two versions of the program are available, one for each of the two transit properties at which the system has been installed. Two versions were necessitated by differences in the report formats and the organization codes for the two properties.

## 7.6 RE100 - Vehicle File Extract Program

The Vehicle File Extract program, RE100, creates two control files that contain information necessary to the execution of Repair Cost System report generators. The program reads a set of user-supplied report request cards, and the SIMS S/U System Vehicle Master File, CN1510.SRV.M.VEHICLE(0). Two control files are created on the basis of these data sources. These files are:

- (a) the Vehicle Extract File. This file contains a record for each vehicle on the Vehicle Master File. The Bus Repair Cost Report Generator program requires this file.
- (b) the Report Request File. This file contains report request records necessary to the execution of the Labor Report Generator program.

### 7.6.1 System Interfaces

Figure 7.6-1 is a program flowchart. Program input consists of the following data sets:

- (a) the Vehicle Master File, CN1510.SRV.M.VEHICLE(0). This is the basic file of the SIMS S/U System. Its contents include records of vehicle servicing and maintenance performed for each vehicle in the system.
- (b) the Date Card File, DATECD. This is a file of 80-character card records. The records contain request information for the Repair Cost System report generators.

Program output consists of the Vehicle Extract File, &BUSLST, and the Report Request File, CN1510.RPC.S.DATEFILE. The Vehicle Extract File contains one data record per vehicle. Each record contains information necessary to the execution of the Bus Repair Cost Report Generator program, RP080. The Report Request File contains report request



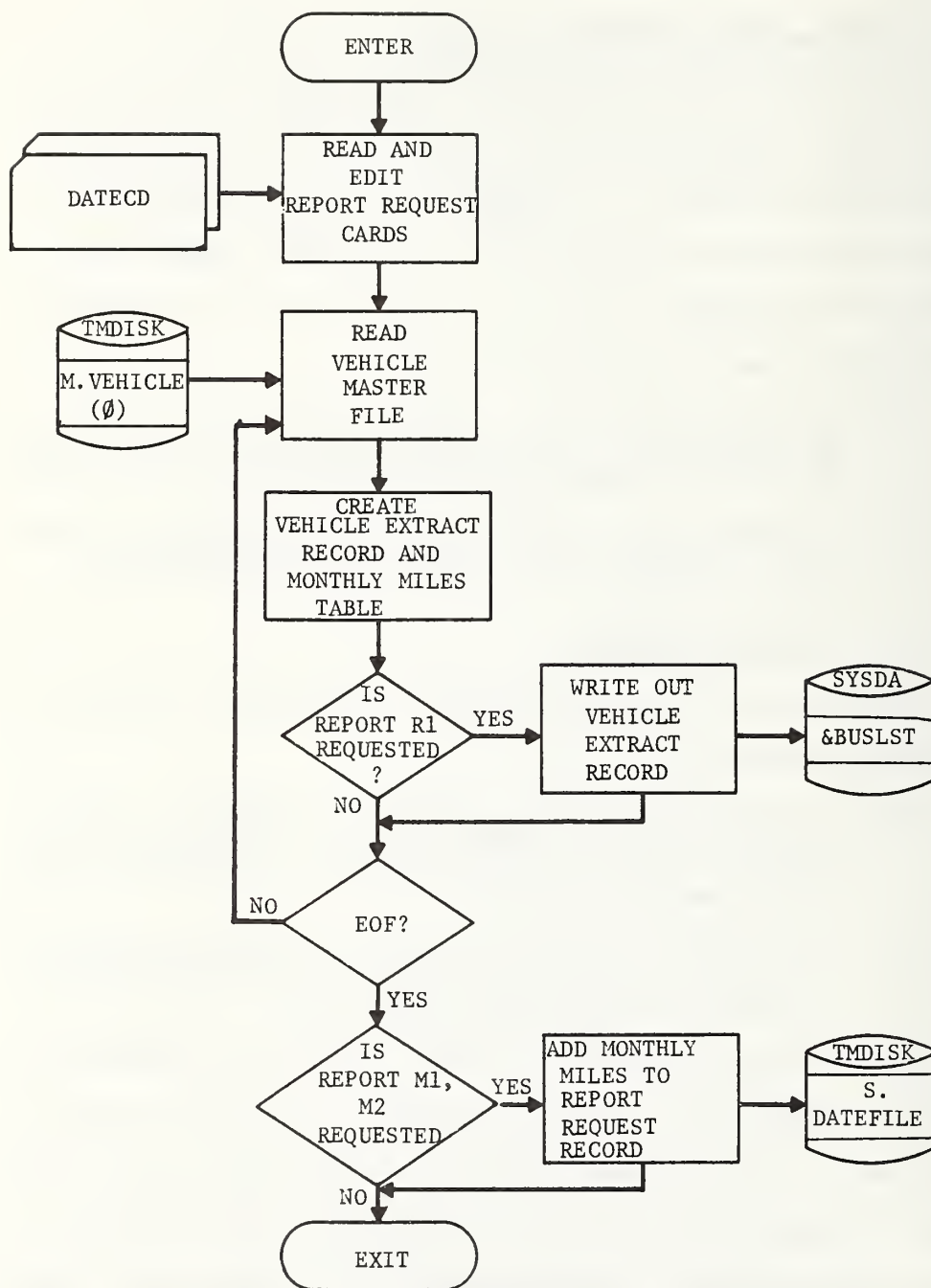


FIGURE 7.6-1  
RE100 PROGRAM FLOWCHART



records that specify the reports to be produced by the Maintenance Report Generator program, MLM2000.

#### 7.6.2 Program Files

No internal file is created during program execution.

#### 7.6.3 Processing Functions

As illustrated in Figure 7.6-1, the program reads the Date Card File (see Section 6.11). The file records specify the reports to be executed during the system run. Two possible report codes may be included. Table 7.6-1 lists these codes and their corresponding programs.

Each date card is edited against a set of criteria. These criteria are:

- (a) the report code must be valid--i.e., equal to R1 or R2.
- (b) the date must be valid as follows:
  - (1) numeric,
  - (2) the year must be not less than 72,
  - (3) the month must be between 1 and 12, and
  - (4) the day must be between 1 and 31.
- (c) for report code R1, the period ending date must be greater than the period beginning date.

If any of the request cards fail these edit criteria, program execution terminates with the printing of an indicative message.

TABLE 7.6-1

## REPAIR COST SYSTEM REPORT CODES

REPORT CODE	PROGRAM EXECUTED	REPORT PRODUCED
R1	RP080	Bus repair cost by sub-assembly
		Bus repair cost by sub-assembly - labor only
		Bus repair cost by sub-assembly - parts only
R2	MLM200	Hourly Maintenance
	MLM200D	Labor Utilization
		Maintenance Labor Cost

The report codes are grouped into two categories. The code R1 causes the creation of the Vehicle Extract File (see Section 6.16). The code R2 initiates the creation of the Report Request File (see Section 6.10).

The program reads the Vehicle Master File. If report code R1 is specified, an extract record is created for each vehicle. The extract record consists of the following data elements:

- (a) vehicle number,
- (b) division number,
- (c) fleet number, and
- (d) the mileage traveled by the vehicle during the report period.

These extract records are output to the Vehicle Extract File, &BUSLST. If an R1 request is not made, the Vehicle Extract File is a null file.

During the extracting procedures, a record is kept of the accumulated miles traveled by month and by the vehicles in the system. These mileages are used to create Report Request File records should the user enter the appropriate request code.

When all vehicles have been processed, a check is made whether the user has submitted an R2 request code. If not, the program is terminated, and the Report Request File is a null file.

If a request code R2 is input, the program creates the Report Request File, CN1510.RPC.S.DATEFILE. This file contains (at most) two records, one of each of the possible codes. Each record consists of:

- (a) the report code,
- (b) the date for the month of the report, and

- (c) the accumulated miles traveled, by all vehicles in the system, for the report month.

#### 7.6.4 Error Messages

During program execution, an error may occur that is critical enough to cause termination of the program. The error also causes the bypassing of succeeding steps in the system. This is accomplished by passing a program return code of eight (8).

An indicative message is printed specifying the error. The possible errors are:

- (a) 'RELØØ - INVALID DATE REQUEST FOUND'

A coding error was detected in the user-supplied Date Card File.

- (b) 'RELØØ - NO DATE REQUEST CARDS FOUND'

No records were found in the user-supplied Date Card File.

## 7.7 RE200 - Materials Cost File Extract

The Materials Cost File Extract program (RE200) is designed to develop the cost of materials issued for the repair of revenue vehicles during a reporting period. Calculated costs are aggregated for each revenue vehicle, by subassembly (vehicle group). Parts cost records are written out to a temporary disk file for use by the Bus Repair Cost Report Generator program, RP080

### 7.7.1 System Interfaces

Figure 7.7-1 is a program flowchart. As illustrated, program input consists of:

- (a) Vehicle Extract File, &BUSLST, created through the execution of the Vehicle File Extract program, RE100.
- (b) Inventory Transaction History File, CN1744.INV.M.TRANTAPE(0), maintained by the SIMS Inventory System.

Output consists of the Materials Cost Extract File, &PTCOST, which is a temporary disk file.

### 7.7.2 Program Files

No files, other than sort files, are created during program execution.

### 7.7.3 Processing Functions

As illustrated in Figure 7.7-1, the input data sets are read. The first record on the Vehicle Extract File (see Section 6.16) is the Report Period Specification Record. The dates contained in this record control selection of records from the Inventory Transaction History

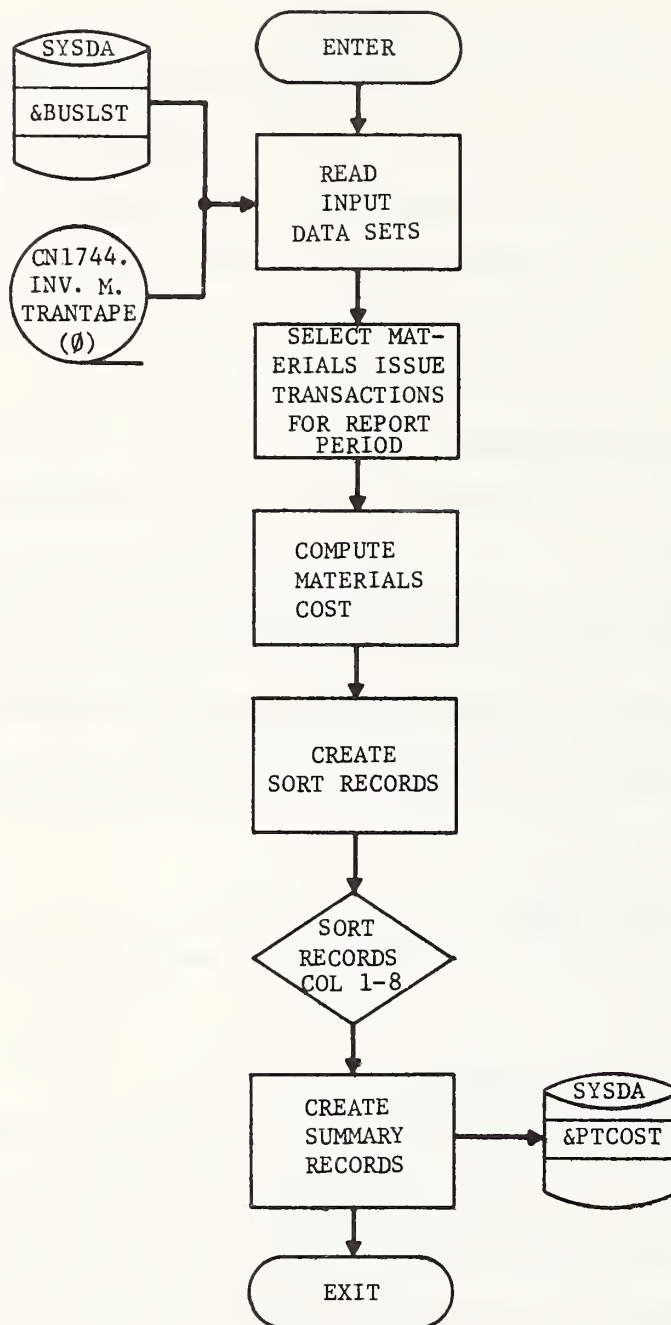


FIGURE 7.7-1  
RE200 PROGRAM FLOWCHART

File (see Section 6.2) for further processing. This includes:

- (a) Selection of Materials Issue records (transaction codes 14 and 26) containing a transaction date within the report period specified.
- (b) If the transaction is identified, by account number or work order number, as a charge for repairs due to an accident or to vandalism, then the inventory class code is replaced. For accident repairs, the code is '95'; for vandalism repairs, the code is '96'.
- (c) If the inventory class code in the selected record is other than specified class code, the class code is replaced with a value of '91'. This identifies miscellaneous materials. The specified class codes identify vehicle subassemblies (groups).
- (d) Using the average unit price and the quantity issued contained in the record, transaction cost is calculated. If the transaction code is '14', the product is multiplied by '-1', as this type of transaction is a credit issue.
- (e) A sort record is created. This record has the same format as the record written out to the Materials Cost Extract File (see Section 6.15).
- (f) The records are sorted using the first 8 characters as the sort key. This contains:
  - (1) Format code (=1),
  - (2) Vehicle number,
  - (3) Inventory class code, and
  - (4) Parts cost record identifier (=1).
- (g) Cost values are aggregated for each vehicle group (class code) for each vehicle.
- (h) Records containing the aggregated cost values are written out to the Materials Cost Extract File (OSORT-FILE).

When all Materials Issue records have been processed, the program terminates.

#### 7.7.4 Error Messages

If the report request code in the Report Period Specification Record is other than '2', an error message is printed and the job step is terminated. The error message is:

'RE200A - THE REQUEST CODE IS NOT 2'.



## 7.8 RE300 - Labor Cost File Extract

The Labor Cost File Extract program (RE300) is designed to develop the cost of maintenance labor for the repair of revenue vehicles during a reporting period. Calculated costs are aggregated for each revenue vehicle, by subassembly (vehicle group). Labor cost records are written out to a temporary disk file for use by the Bus Repair Cost Request Generator program, RP080.

### 7.8.1 System Interfaces

Figure 7.8-1 is a program flowchart. As illustrated, program input consists of:

- (a) Vehicle Extract File, &BUSLST, created through the execution of the Vehicle File Extract program, RE100.
- (b) Labor Transaction History File, CN1510.RPC.M.TRANHIST(0), maintained by the Labor Transaction History File Edit/Update program, DG500.

Output consists of the Labor Cost Extract File, &LBCOST, which is a temporary disk file.

### 7.8.2 Program Files

No files, other than sort files, are created during program execution.

### 7.8.3 Processing Functions

As illustrated in Figure 7.8-1, the input data sets are read. The first record on the Vehicle Extract File (see Section 6.16) is the Report Period Specification Record. The dates contained in this record control selection of records from the Labor Transaction History File

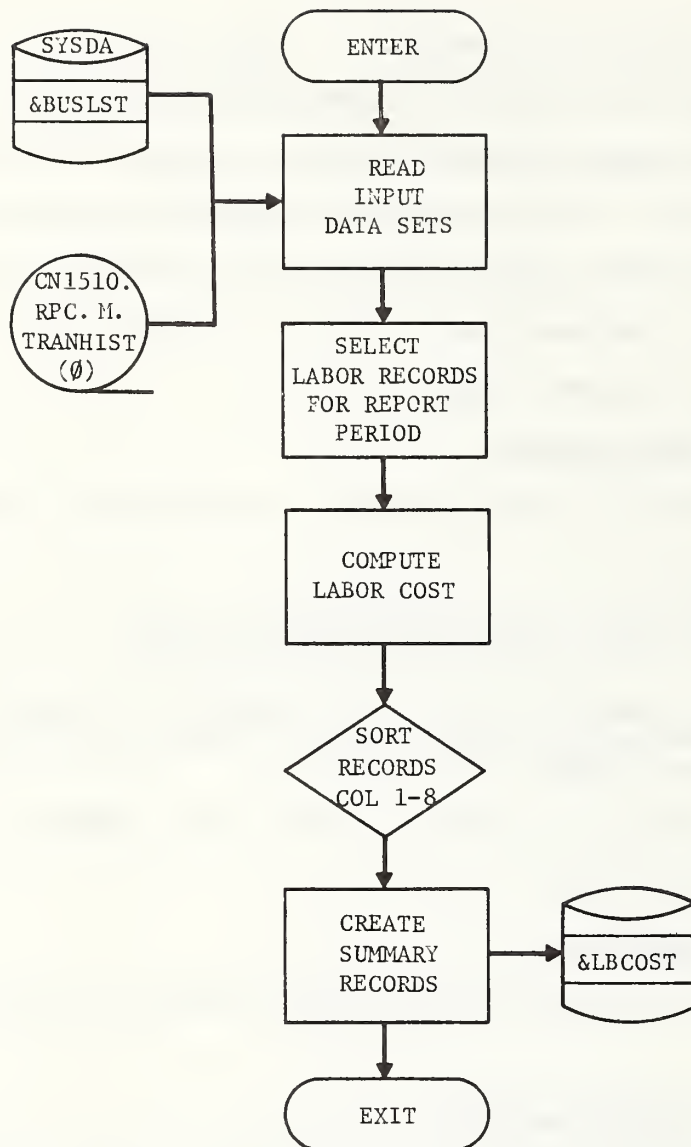


FIGURE 7.8-1  
RE300 PROGRAM FLOWCHART

(see Section 6.1) for further processing. This includes:

- (a) Selection of Labor Distribution records containing a transaction date within the report period specified.
- (b) If a transaction is identified, by account number or work order number, as a charge for repairs due to an accident or to vandalism, then the group code is replaced. For accident repairs, the code is '95'; for vandalism repairs, the code is '96'.
- (c) If the group code in the selected record is other than specified group codes, the group code is replaced with a value of '91'. This identifies miscellaneous vehicle maintenance work.
- (d) Using the hourly pay rate and hours worked contained in the labor distribution record, transaction cost is calculated. If the record contains both regular hours and premium hours values, the hours are summed before the cost is calculated.
- (e) A sort record is created. This record has the same format as the record written out to the Labor Cost Extract File (see Section 6.14).
- (f) The records are sorted using the first 8 characters as the sort key. This contains:
  - (1) Format code (=1),
  - (2) Vehicle number,
  - (3) Group code, and
  - (4) Labor cost record identification (=2).
- (g) Cost values are aggregated for each vehicle group for each vehicle.
- (h) Records containing the aggregated values are written out to the Labor Cost Extract File (OSORT-FILE).

When all Labor Distribution records have been processed, the program terminates.

#### 7.8.4 Error Messages

If the report request code in the Report Period Specification Record is other than '3', an error message is printed and the job step is terminated. The error message is:

'RE300A - THE REQUEST CODE IS NOT 3'.

## 7.9 RP080 - Bus Repair Cost Report Generator

The Bus Repair Cost Report Generator was designed to produce on-demand reports. The program is normally executed on a monthly basis.

The program produces two reports, the Bus repair Cost By Sub-assembly and the Subassembly Repair Cost - Division Summary. These reports are designed to assist maintenance management in monitoring vehicle repair cost by subassembly classification. Report options include production of the report on the basis of parts and labor cost, parts cost only, and labor cost only.

The report options are enacted by execution of a cataloged procedure. Each of the three options has a unique procedure associated with it. See Section 5.0 for a description of the SIMS Repair Cost procedures.

### 7.9.1 System Interface

Figure 7.9-1 is a program flowchart. Program input consists of three data sets.

- (a) the Vehicle Extract File, &BUSLST (see Section 6.15). This file is created by execution of RE100, the Vehicle Extract program. It contains one record for each vehicle in the SIMS S/U System.
- (b) the Labor Cost Extract File, &LBCOST (see Section 6.13). This file is created by execution of RE300, the Labor Cost Extract program. It contains records of the labor cost of vehicle repair by repair classification.
- (c) the Parts Cost Extract File, &PTCOST (see Section 6.14). This file is created by execution of RE200, the Parts Cost Extract program. It contains records of the cost of parts used in vehicle repair by repair classification.

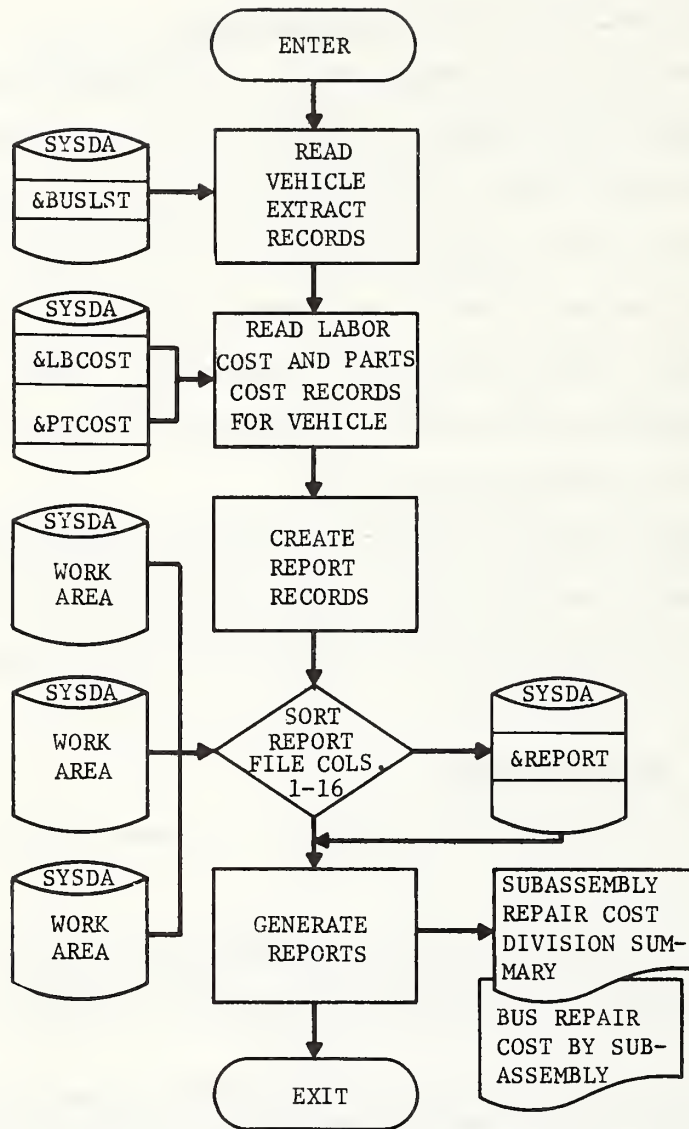


FIGURE 7.9-1  
RP080 PROGRAM FLOWCHART

Program output consists of two reports, the Bus Repair Cost By Subassembly and the Subassembly Repair Cost - Division Summary.

Figures 7.9-2 and 7.9-3 give report formats for these reports.

No file is created that is read by other programs in the system.

#### 7.9.2 Program Files

One internal file is created during program execution. This file is the Report File, OSORT-FILE, and is created using the COBOL internal sort routine. For each vehicle in the system, one record is created containing the total cost of vehicle maintenance, by repair classification, for the report period. This file is used to generate the program reports.

Table 7.9-1 and 7.9-2 give file and record specifications for this file.

#### 7.9.3 Processing Functions

As illustrated in Figure 7.9-1, the program reads the Vehicle Extract File. This file contains one record per vehicle in the system. One record is read at a time, and the vehicle number becomes the key for the reading of the two cost extract files. The program builds one report record per vehicle. This record is released to the COBOL internal sort routine upon completion of processing of all data for that vehicle. The record contains dollar costs of repairs for the following repair classifications:

- (a) Inspections,
- (b) Front Axle,

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	ELC	REPAIR	COST	BY	SUBASSEMBLY	
FOR PERIOD	MC/CA/YR	THRU	MO/(A/YE.	IN	DOLLARS	
01-01-78	06-30-78	01-01-79	06-30-79	01-01-80	06-30-80	01-01-81
07-01-78	12-31-78	01-01-79	06-30-79	01-01-80	06-30-80	01-01-81
01-01-79	06-30-79	01-01-80	06-30-80	01-01-81	06-30-81	01-01-82
07-01-79	12-31-79	01-01-80	06-30-80	01-01-81	06-30-81	01-01-82
01-01-80	06-30-80	01-01-81	06-30-81	01-01-82	06-30-82	01-01-83
07-01-80	12-31-80	01-01-81	06-30-81	01-01-82	06-30-82	01-01-83
01-01-81	06-30-81	01-01-82	06-30-82	01-01-83	06-30-83	01-01-84
07-01-81	12-31-81	01-01-82	06-30-82	01-01-83	06-30-83	01-01-84
01-01-82	06-30-82	01-01-83	06-30-83	01-01-84	06-30-84	01-01-85
07-01-82	12-31-82	01-01-83	06-30-83	01-01-84	06-30-84	01-01-85
01-01-83	06-30-83	01-01-84	06-30-84	01-01-85	06-30-85	01-01-86
07-01-83	12-31-83	01-01-84	06-30-84	01-01-85	06-30-85	01-01-86
01-01-84	06-30-84	01-01-85	06-30-85	01-01-86	06-30-86	01-01-87
07-01-84	12-31-84	01-01-85	06-30-85	01-01-86	06-30-86	01-01-87
01-01-85	06-30-85	01-01-86	06-30-86	01-01-87	06-30-87	01-01-88
07-01-85	12-31-85	01-01-86	06-30-86	01-01-87	06-30-87	01-01-88
01-01-86	06-30-86	01-01-87	06-30-87	01-01-88	06-30-88	01-01-89
07-01-86	12-31-86	01-01-87	06-30-87	01-01-88	06-30-88	01-01-89
01-01-87	06-30-87	01-01-88	06-30-88	01-01-89	06-30-89	01-01-90
07-01-87	12-31-87	01-01-88	06-30-88	01-01-89	06-30-89	01-01-90
01-01-88	06-30-88	01-01-89	06-30-89	01-01-90	06-30-90	01-01-91
07-01-88	12-31-88	01-01-89	06-30-89	01-01-90	06-30-90	01-01-91
01-01-89	06-30-89	01-01-90	06-30-90	01-01-91	06-30-91	01-01-92
07-01-89	12-31-89	01-01-90	06-30-90	01-01-91	06-30-91	01-01-92
01-01-90	06-30-90	01-01-91	06-30-91	01-01-92	06-30-92	01-01-93
07-01-90	12-31-90	01-01-91	06-30-91	01-01-92	06-30-92	01-01-93
01-01-91	06-30-91	01-01-92	06-30-92	01-01-93	06-30-93	01-01-94
07-01-91	12-31-91	01-01-92	06-30-92	01-01-93	06-30-93	01-01-94
01-01-92	06-30-92	01-01-93	06-30-93	01-01-94	06-30-94	01-01-95
07-01-92	12-31-92	01-01-93	06-30-93	01-01-94	06-30-94	01-01-95
01-01-93	06-30-93	01-01-94	06-30-94	01-01-95	06-30-95	01-01-96
07-01-93	12-31-93	01-01-94	06-30-94	01-01-95	06-30-95	01-01-96
01-01-94	06-30-94	01-01-95	06-30-95	01-01-96	06-30-96	01-01-97
07-01-94	12-31-94	01-01-95	06-30-95	01-01-96	06-30-96	01-01-97
01-01-95	06-30-95	01-01-96	06-30-96	01-01-97	06-30-97	01-01-98
07-01-95	12-31-95	01-01-96	06-30-96	01-01-97	06-30-97	01-01-98
01-01-96	06-30-96	01-01-97	06-30-97	01-01-98	06-30-98	01-01-99
07-01-96	12-31-96	01-01-97	06-30-97	01-01-98	06-30-98	01-01-99
01-01-97	06-30-97	01-01-98	06-30-98	01-01-99	06-30-99	01-01-00
07-01-97	12-31-97	01-01-98	06-30-98	01-01-99	06-30-99	01-01-00
01-01-98	06-30-98	01-01-99	06-30-99	01-01-00	06-30-00	01-01-01

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[illegible]

**FIGURE 7.9.2  
FORMAT OF  
BUS REPAIR COST  
BY SUBASSEMBLY REPORT**





## TABLE 7.9-1

## PROGRAM FILE SPECIFICATION

FILE NAME: OSORT-FILE

DATA SET NAME: &amp;REPORT

NUMBER OF RECORD FORMATS: 1      RECORD SIZE: 97 Characters

FILE ORGANIZATION:    Sequenced by:   Division  
    Vehicle Number

## RECORD FORMATS

<u>RECORD NAME</u>	<u>MAX. NO.</u>	<u>MIN. NO.</u>
Report Record	U	1

TABLE 7.9-2  
RECORD SPECIFICATION

RECORD NAME: Report Record

FILE NAME: OSORT-FILE

COBOL NAME OF RECORD: OSORT-REC

RECORD LENGTH: 97 Characters

<u>FIELD POS.</u>	<u>FIELD LENG.</u>	<u>FORMAT</u>	<u>COBOL FIELD NAME</u>	<u>FIELD DESCRIPTION</u>
1	2	99	WS-DIV-NO	Division Number
3	4	9(4)	WS-BUS-NO	Vehicle Number
7	5	S9(5)	WS-INSP-COST	Cost of Inspections Done
12	5	S9(5)	WS-FT-AXLE-COST	Cost of Front Axle Work
17	5	S9(5)	WS-RR-AXLE-COST	Cost of Rear Axle Work
22	5	S9(5)	WS-BRAKES-COST	Cost of Brake Work
27	5	S9(5)	WS-CLUTCH-COST	Cost of Clutch Work
32	5	S9(5)	WS-COOL-SYS-CST	Cost of Cooling System Work
37	5	S9(5)	WS-ELEC-COST	Cost of Electrical System Work
42	5	S9(5)	WS-ENG-COST	Cost of Engine Work
47	5	S9(5)	WS-TRANS-COST	Cost of Transmission Work
52	5	S9(5)	WS-WHEELS-COST	Cost of Wheel Work
57	5	S9(5)	WS-BODY-COST	Cost of Body Repair Work
62	5	S9(5)	WS-AIR-COND-COST	Cost of Air Conditioning System Work
67	5	S9(5)	WS-MISC-COST	Cost of All Other Repair Work
72	5	S9(5)	WS-TOTAL-COST	Total Cost of Work Done
77	6	S9(4)V99	WS-CENTS-PER-MIL	Cost Per Mile of Total Work Cost
83	5	S9(5)	WS-MILE-PER-PRD	Miles Traveled for Report Period
88	5	S9(5)	WS-ACC-COST	Cost of Accident Repair Work
93	5	S9(5)	WS-VAN-COST	Cost of Vandalism Repair
TOTAL	97			

- (c) Rear Axle,
- (d) Brakes,
- (e) Clutch,
- (f) Cooling System,
- (g) Electrical System,
- (h) Engine,
- (i) Transmission,
- (j) Wheels,
- (k) Body Work,
- (l) Air Conditioning
- (m) Accidents,
- (n) Vandalism, and
- (o) Miscellaneous.

The cost data may come from two sources, the Labor Cost Extract File and the Parts Cost Extract File. Each file is sequenced by vehicle number. The file contents are matched against the vehicle number being considered from the Vehicle Extract File. When a match occurs, the cost data is entered into the proper classification category in the report record. The program can read both of the sources, or the parts cost only, or the labor cost only. This option depends on the report which the user has requested.

When all cost data has been read for the vehicle currently considered, the report record is released to the COBOL internal sort. The sorting is done on division number and vehicle number. When all

cost data has been processed for all system vehicles, control is transferred to the report section of the program.

The Report File is read and one report line is generated per vehicle record. Control of page spacing is on change of division number. Within division, vehicles numbers are displayed in ascending order. Totals are saved of the repair cost data. These are used to produce the division summary report. This report is generated when all vehicle records have been processed.

Program termination occurs with the production of the division summary report.

#### 7.9.4 Error Messages

The first record of the Vehicle Extract File is a header record giving the report period dates. If this record is not present, an error occurs. The program prints a message and execution terminates. The message is:

'ERROR IN THE DATE-FILE'.

## 7.10 DTS Employee File Extract (EMP100)

The DTS Employee File Extract program (EMP100) is designed to produce a file of transit maintenance employee data. The program reads and edits a deck of employee data cards, and produces extract records for employees working on vehicle maintenance. Each extract record contains an employee number, organization code, and a pay rate. A report of employee card edit errors is produced, as well as a summary report of employee cards read by department. The Employee Master File created by the program is used by the DTS Data Acceptance program, DA500D, in conversion of DTS labor transactions to a format acceptable to the R/C System.

### 7.10.1 System Interfaces

Figure 7.10-1 is a program flowchart. The program reads the DTS Employee Card File. This is a file of 80-character records read through the job stream on punched cards. One record exists for each transit company employee.

Program output consists of two reports and the Employee Master File (CN1510.RPC.S.EMPFILE). The reports produced are:

- (a) The Employee Card Edit List, which displays employee cards rejected during editing.
- (b) The Employee Statistics Report, which presents a count (by department) of the employee cards read.

The Employee Master File is a disk file. It is used as input to the DTS Data Acceptance program, DG500D. The contents include data for employees working in vehicle maintenance.

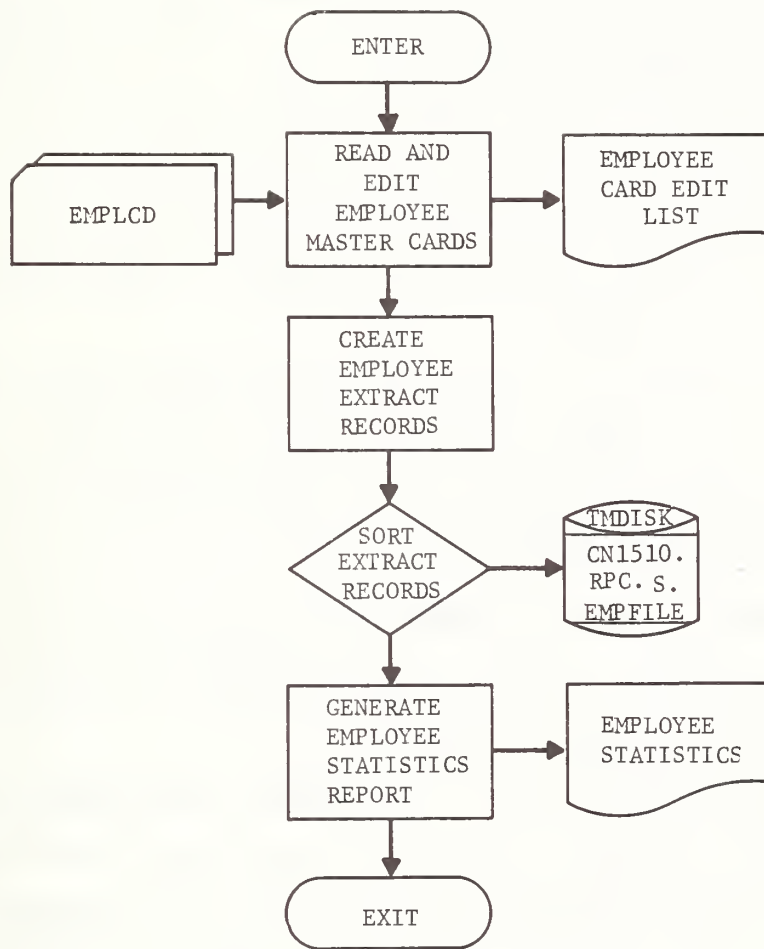


FIGURE 7.10-1  
EMP100 PROGRAM FLOWCHART

#### 7.10.2 Program Files

No internal file is created during program execution.

#### 7.10.3 Processing Functions

As illustrated in Figure 7.10-1, the DTS Employee File Extract program reads a file of employee data cards. For each record, a set of edit functions is performed. Employee cards that are not applicable to vehicle maintenance are bypassed. A count is kept of the number of these read.

Those transactions that are applicable are edited against a set of edit criteria. These criteria are listed in Table 7.10-1. Erroneous records are displayed on the Employee Card Edit List with an asterisk under the field in error.

Valid records are used to create extract records output to the Employee Master File. These extract records consist of employee number, organization code, and pay rate.

When all employee cards have been processed, the Employee Statistics report is produced. This report contains a count of the number of employee cards read. The count is broken up into the number of valid and invalid records by account classification. The classification includes account numbers 0872 and 0873, non-transit, and other department codes.

Program termination occurs with the completion of the Employee Statistics report.



TABLE 7.10-1

## EMP100 EDIT CRITERIA

<u>TRANSACTION</u>	<u>EDIT FUNCTION</u>
Employee Card	<p>Cards that meet the following tests are edited. Those that fail are bypassed, and an appropriate counter incremented.</p> <ul style="list-style-type: none"> <li>(a) Transit Code must equal 'T',</li> <li>(b) Payroll Code must equal '6', and</li> <li>(c) Department Code must be 0872 or 0873.</li> </ul> <p>Those transactions that meet the above criteria are edited as follows:</p> <ul style="list-style-type: none"> <li>(a) employee number must be numeric and non-zero,</li> <li>(b) pay rate must be numeric and non-zero,</li> <li>(c) account code must be '7',</li> <li>(d) If department code equals 0872, the function code must be: BE, BS, or BF, and</li> <li>(e) If department code equals 0873, the function code must be BE.</li> </ul>

#### 7.10.4 Error Messages

If no employee cards are submitted by the user, an error occurs. A message is printed and a program code of eight (8) is returned to the system. This code causes the remainder of the job steps to be bypassed. The message printed is:

'EMP100-0300 - NO EMPLOYEE CARDS FOUND'.

## 8.0 SIMS REPAIR COST SYSTEM INSTALLATION

Installation of the SIMS Repair Cost System involves:

- (a) initialization of system files and program libraries.
- (b) entry of transaction data and generation of reports to test the system.

The initial steps to install the system are undertaken by personnel of the computer facility at which the system is to be implemented.

The steps undertaken are:

- (a) The program load library is stored on the disk pack, TMDISK, on which the Service/Unit Change System is resident.
- (b) A generation data set index is created, using an IBM utility program, IEHPROGM.
- (c) The allocation of space required by data sets is made.
- (d) The Repair Cost cataloged procedures are entered in the system procedures library.
- (e) The two constants files are initiated using an IBM utility program, IEBGENER.

The initiating and updating of the constants files consist of using IEBGENER to copy the records to disk. The data must be coded in the same format as the constants files records. These formats are detailed in Sections 6.8 and 6.9.

After the two constants files have been initiated, maintenance labor distribution records are processed for the purposes of:

- (a) testing the system, and
- (b) initiating the Labor Transaction History File.

If the labor distribution record does not contain the employee's hourly pay rate and organization code, then a second set of records,

employee master records (see Section 4.1), are also entered. The all-inclusive monthly job (see Section 4.3) is executed, as this includes the generation of reports.

For the initial run, the JCL deck must include an override card for one data set. Normally, the most recent generation of the Labor Transaction History File is used as input to the job. At this stage of system start-up, this file does not exist and a dummy data set must be substituted. This is accomplished through the inclusion of the override card in the JCL deck.

The output from the initial run includes both edit reports and user reports. These reports should be analyzed to ensure that correct data was entered and that the system is operating satisfactorily.

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